# marantz®

## Model PD4292D  User Guide

Plasma  Monitor

# IMPORTANT INFORMATION

## PRECAUTIONS

Please read this manual carefully before using your marantz 42 inch Plasma Monitor and keep the manual handy for future reference.

---

⚡ ⚠️

## CAUTION

### RISK OF ELECTRIC SHOCK
### DO NOT OPEN

**CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,**
**DO NOT REMOVE COVER (OR BACK)**
**NO USER-SERVICEABLE PARTS INSIDE**
**REFER SERVICING TO QUALIFIED SERVICE PERSONNEL**

---

⚡ This symbol warms the user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any part inside of this unit.

⚠️ This symbol alerts the user that important literature concerning the operation and maintenance of this unit has been included. Therefore, it should be read carefully in order to avoid any problems.

## WARNING

TO PREVENT FIRE OR SHOCK HAZARDS. DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE. ALSO DO NOT USE THIS UNIT'S POLARIZED PLUG WITH AN EXTENSION CORD RECEPTACLE OR OTHER OUTLETS, UNLESS THE PRONGS CAN BE FULLY INSERTED. REFRAIN FROM OPERATING THE CABINET AS THERE ARE HIGH-VOLTAGE COMPONENTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

### DOC compliance Notice

This class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

### WARNING

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in according with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference in which case the user will be required to correct the interference at his own expense.

## Warnings and Safety Precaution

The SLIM SERIES PLASMA MONITOR PD4292D is designed and manufactured to provide long, trouble-free service. No maintenance other than cleaning is required. Use a soft dry cloth to clean the panel. Never use solvents such as alcohol or thinner to clean the panel surface.

For operating safety and to avoid damage to the unit, read carefully and observe the following instructions.

To avoid shock and fire hazards:

1. Provide adequate space for ventilation to avoid internal heat build-up. Do not cover rear vents or install in a closed cabinet or shelves.
   The unit is equipped with cooling fans. If you enclose the unit in a cabinet or rack, be sure there is adequate space at the top of the unit to allow heated air to rise and escape. If the monitor because too hot, the overheat protector will be activated and the monitor will be turned off. If this happens, turn off the power to the monitor and unplug the power cord. If the room where the monitor is installed is particularly hot, move the monitor to a cooler location, and wait for the monitor to cool for 60 minutes. If the problem persists, contact your marantz dealer for service.
2. Do not use the power cord polarized plug with extension cords or outlets unless the prongs can be completely inserted.
3. Do not expose unit to rain or moisture.
4. Avoid damage to the power cord, and do not attempt to modify the power cord.
5. Unplug unit during electrical storms of if unit will not be used over a long period.
6. Do not open the cabinet which has potentially dangerous high voltage components inside. If the unit is damaged in this way the warranty will be void. Moreover, there is a serious risk of electric shock.
7. Do not attempt to service or repair the unit. marantz is not liable for any bodily harm or damage caused if unqualified persons attempt service or open the back cover. Refer all service to authorized marantz Service Centers.

To avoid damage and prolong operating life:

1. Use only with 120 V 50/60 Hz AC power supply. Continued operation at line voltage greater than 120 Volts AC will shorten the life of the unit, and might even cause a fire hazard.
2. Handle the unit carefully when installing it and do not drop.
3. Locate set away from heat, excessive dust, and direct sunlight.
4. Protect the inside of the unit from liquids and small metal objects. In case of accident, unplug the unit and have it serviced by an authorized marantz Service Center.
5. Do not hit or scratch the panel surface as this cause flaws on the surface of the screen.
6. For correct installation and mounting it is strongly recommended to use a trained,authorized Marantz dealer.
7. As is the case with any phosphor-based display (like a CRT monitor, for example) light output will gradually decrease over the life of a Plasma Display Panel.

**Recommendations to avoid or minimize phosphor burn-in**

Like all phosphor-based display devices and all other gas plasma displays, SLIM SERIES PLASMA MONITOR can be susceptible to phosphor burn under certain circumstances. Certain operating conditions, such as the continuous display of a static image over a prolonged period of time, can result in phosphor burn if proper precautions are not taken. To protect your investment in this Marantz SLIM SERIES PLASMA MONITOR, please adhere to the following guidelines and recommendations for minimizing the occurrence of image burn:

* Always enable and use your computer's screen saver function during use with a computer input source.
* Display a moving image whenever possible.
* Always power down the monitor when you are finished using it.

If the SLIM SERIES PLASMA MONITOR is in long term use or continuous operation take the following measures to reduce the likelihood of phosphor burn:

* Lower the Brightness and Contrast levels as much as possible without impairing image readability.
* Display an image with many colors and color gradations (ie. photographic or photo-realistic images).
* Create image content with minimal contrast between light and dark areas, for example white characters on black backgrounds. Use complementary or pastel color whenever possible.
* Avoid displaying images with few colors and distinct, sharply defined borders between colors.

Contact Marantz service center at 1-800-270-4533 for other recommended procedures that will best suit your particular application needs.

## PDP Monitor burning characteristics

Regarding the subject titled, we hereby furnish you with the following report:

### 1. Burning

The fluorescent substance used in the plasma module loses its brightness with the lapse of lighting time.

This deterioration in brightness appears to be a difference in brightness in relation to the surroundings, and comes to be recognized as burning.

In other words, the burning is defined as follows: when the same pattern (of the fixed display) is displayed for a long time, a difference in brightness is caused around the lighting area and non-lighting area due to deterioration in the fluorescent substance. When the present pattern is changed over to another one, the boundary comes to be seen between the lighting area and non-lighting area due to difference in brightness in the pattern shown shortly before changeover. If this condition is accumulated, the boundary or burning comes to be seen with the naked eyes.

### 2. Secular change in brightness

The life of brightness, defined as the reduction to half the initial level, is more than 10 thousand hours on average. Conditions: All white (100% white) input at an ambient temperature of 25°C.

However, this life time is not a guarantee value for life and brightness. It should be recognized simply as the data for reference.

### 3. Warranty period

Burning and faults in brightness and picture elements are excluded from the warranty objects.

### 4. Cause of deterioration in brightness

A major possible cause of deterioration in brightness is damage in the fluorescent substance due to impact caused by ions generated at the time of plasma discharges.

### 5. Practical value for burning

The deterioration in brightness tends to be accelerated up to 100 hours in the initial period. In the initial period, the fixed display of patterns particularly tends to cause burning. The practical value for burning is difficult to define in concrete numerals. As described below, you are advised to take proper measures to make the occurrence of burning as slow as possible.

### 6. Proposed measures taken to relieve burning

So long as there is the reduction of brightness in the fluorescent substance, it is impossible to avoid the occurrence of burning. Therefore, to relieve burning, we offer you a method of entering an image input that may ensure reluctance to the generation of the difference in brightness reduction among the displayed dots.

The images from TV broadcasting involve a high rate of motion picture displays.

Therefore, there is less chance of being a cause of difference in brightness reduction among the cells. Even when the fixed patterns are displayed, they generally last for a few minutes. Since the same pattern is less liable to be displayed, there is almost no influence toward burning.

If the fixed patterns tend to be displayed for a long time, however, there occurs a substantial imbalance between the lighting and non-lighting areas, thus causing a difference in brightness as a result. In this paper, we offer you some proposals of installation, paying attentions to the two points: the reduction of difference in brightness achieved by integrated lighting time leveling and the method of edge smearing to make burning hard to be discerned.

The result from these proposals can, however, greatly depend on the contents of images and the operating environment. Therefore, we consider that it is essential to take the suitable measures in consideration of the customer's operating environment.

Example of Proposal 1: The display position is moved while the fixed display pattern is changed over, or it is scrolled during the display.

Example of Proposal 2: If possible, a pattern of complementary color is incorporated (for integrated time leveling).

Example of Proposal 3: The fixed pattern and the motion picture display are reciprocally exchanged, in order to minimize the display period of the fixed pattern.

Example of Proposal 4: During operation, the brightness of screen is suppressed as low as possible. For the display patterns, characters are indicated not on the black ground (non-picture area) but on the colored ground (mixture of R, G, B recommended).

### 7. Proposed countermeasures for the plasma module

Since the PDP is a display that uses a fluorescent substance like the CRT, it is a fundamental phenomenon that burning occurs. Unlike the CRT, the PDP gives rise to deterioration in the fluorescent substance due to impact caused by ions generated during plasma display.

As a result of the above-mentioned improvements, it is possible to extend the PDP lifetime and relieve the effect of burning, but is impossible to realize the complete elimination of burning so far as a fixed pattern is displayed for a long time.

NOTE:
When you connect a computer to this monitor, attach the supplied ferrite cores. If you do not do this, this monitor will not comform to mandatory FCC standards.
Attaching the ferrite cores.
Set the ferrite cores on the both ends of the DVI cable (not supplied), and the one end of the power cable (supplied).
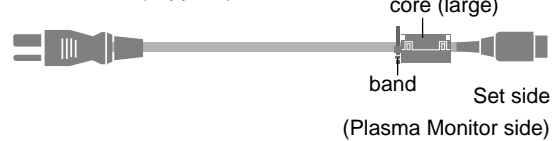Close the lid tightly until the clamps click.
Use the band to secure the ferrite core (supplied).

DVI cable (not supplied)

band      band    Connector

core (small)    core (small)

Power cable (supplied)

core (large)

band    Set side
(Plasma Monitor side)

## To avoid damage and prolong operating life:

1. Use only with 120V 50/60Hz AC power supply. Continued operation at line voltages greater than 120 Volts AC will shorten the life of the unit, and might even cause a fire hazard.
2. Handle the unit carefully when installing it and do not drop.
3. Locate set away from heat, excessive dust, and direct sunlight.
4. Protect the inside of the unit from liquids and small metal objects. In case of accident, unplug the unit and have it serviced by an authorized Marantz Service Center.
5. Do not hit or scratch the panel surface as this causes flaws on the surface of the screen.
6. For correct installation and mounting it is strongly recommended to use a trained, authorized Marantz dealer.
7. As is the case with any phosphor-based display (like a CRT monitor, for example) light output will gradually decrease over the life of a Plasma Display Panel.

Recommendations to avoid or minimize phosphor burn-in

Like all phosphor-based display devices and all other gas plasma displays, plasma monitors can be susceptible to phosphor burn under certain circumstances. Certain operating conditions, such as the continuous display of a static image over a prolonged period of time, can result in phosphor burn if proper precautions are not taken. To protect your investment in this Marantz plasma monitor, please adhere to the following guidelines and recommendations for minimizing the occurrence of image burn:

* Always enable and use your computer's screen saver function during use with a computer input source.
* Display a moving image whenever possible.
* Always power down the monitor when you are finished using it.

If the SLIM SERIES PLASMA MONITOR is in long term use or continuous operation take the following measures to reduce the likelihood of phosphor burn:

* Lower the Brightness and Contrast levels as much as possible without impairing image readability.
* Display an image with many colors and color gradations (ie. photographic or photo-realistic images).
* Create image content with minimal contrast between light and dark areas, for example white characters on black backgrounds. Use complementary or pastel color whenever possible.
* Avoid displaying images with few colors and distinct, sharply defined borders between colors.

Contact Marantz service center 1-800-270-4533 for other recommended procedures that will best suit your particular application needs.

# Contents

# How to Attach Options to the Plasma Monitor

You can attach your optional mounts or stand to the plasma monitor in one of the following two ways:

* As it is upright. (See Drawing A)
* As it is laid down with the screen face down (See Drawing B). Lay the protective sheet, which was wrapped around the monitor when it was packaged, beneath the screen surface so as not to scratch the screen face.

---

• **This device cannot be installed on its own. Be sure to use a stand or original mounting unit. (Wall mount unit, Stand, etc)**
  **\* See page 2.**

• **For correct installation and mounting it is strongly recommended to use a trained, authorized Marantz dealer.**

  **Failure to follow correct mounting procedures could result in damage to the equipment or injury to the installer.**

  **Product warranty does not cover damage caused by improper installation.**

---

**Drawing A**
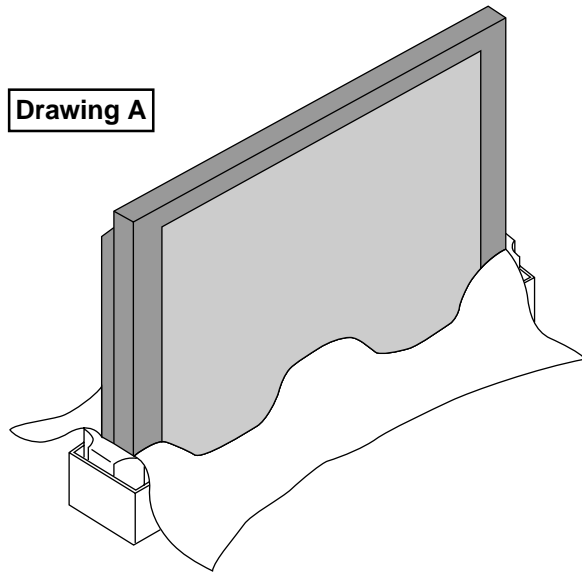
**Drawing B**
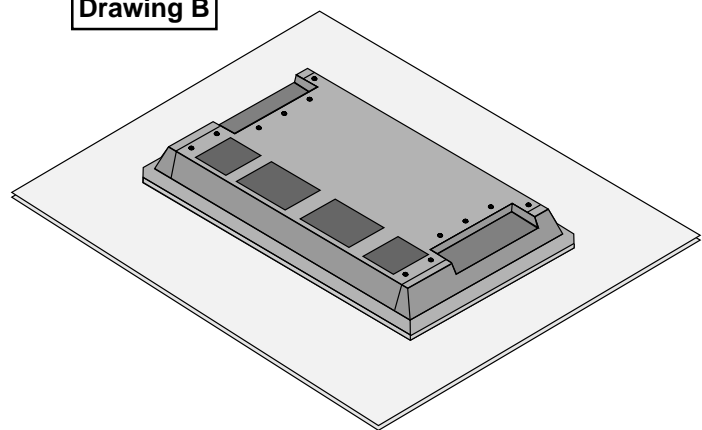
## Ventilation Requirements for enclosure mounting

To allow heat to disperse, leave space between surrounding objects as shown on the diagram below when installing.

Wall

31mm (1.22")  31mm (1.22")

1110mm (43.7")

50mm (2")

Wall

748mm (29.5")

50mm (2")

1
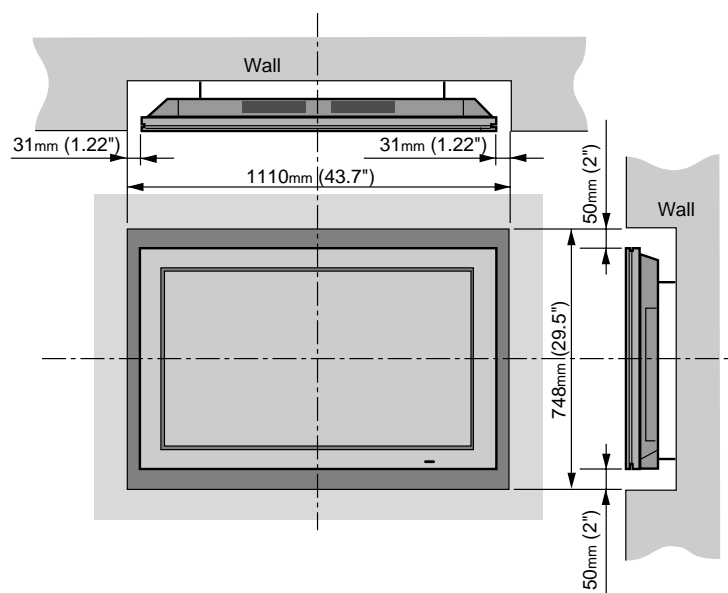
# Introduction

## Introduction to the SLIM SERIES PLASMA MONITOR

PD4292D is a seamless blend of cutting-edge visual technology and sophisticated design. At 42-inches, with a 16:9 aspect ratio, the PD4292D certainly makes a big impression. However, at a mere 3.5 inches/ 89mm thin, the monitor's sleek techno-art lines blend in well with your environment. Plasma monitor's crisp, vivid image quality will transform data from any graphic medium from PCs to DVD players- into art. And weighing only 70.6 lbs/ 32 kg, it actually can be hung almost anywhere. Marantz has made sure that a host of multimedia resources can be easily connected and displayed as brilliantly as intended on the SLIM SERIES PLASMA monitor.

## The features you'll enjoy include:

- 42-inch screen
- 16:9 aspect ratio
- Capsulated Color Filter (CCF) and black matrix
- 3.5 inch / 89 mm thin
- 70.6 lbs/ 32 kg light
- High-resolution screen: $853 \times 480$ pixels
- 160-degrees of off-axis viewing, horizontally and vertically.
- Flicker - and warp - free display provides excellent image geometry even in screen corners
- Not affected by magnetic fields, no color drift or edge distortion.
- VGA, SVGA, XGA, SXGA(60Hz), computer signal compatibility
- NTSC, PAL, SECAM, composite and S-Video signal compatibility
- 480P, 1080I, 720P and HDTV signal compatibility
- PCs, VCRs, Laser Disc and DVD player source compatibility
- AccuBlend scan conversion automatically converts VGA, SVGA and SXGA signals to the panel's native resolution
- RGB input (3*), Video input (3), DVD/HD input (2*), Audio input (3), External Control input (1)
- AccuColor control system provides user selectable on-screen color temperature settings
- New Drive Technology
- Component video input terminal for DVD, 15.75kHz (Y, $C_B$, $C_R$)
- Marantz's OSM menu-driven on screen control system that makes image adjustments a snap
- Seven languages (English, German, French, Italian, Spanish, Swedish, and Japanese)

* You can select RGB source or Component source for the 5BNC terminal. When selecting an RGB input, the source is switched to the RGB input (3); when selecting a component input, the source is switched to the DVD/HD input (2).

## Contents of the Package

☐ PD4292D plasma monitor

☐ Power cord

☐ LCD Remote control unit with four AA Batteries

☐ User's manual

☐ Safety metal fitting*

☐ Screw for safety metal fitting*

☐ Ferrite core (small × 2, large × 1)

* These are fittings for fastening the unit to a wall to prevent tipping due to external shock when using the stand (option). Fasten the safety fittings to the holes in the back of the monitor using the safety fitting mount screws.

## Options

- Tilt mount unit
- Tabletop stand

2

# Part Names and Function

## Front View
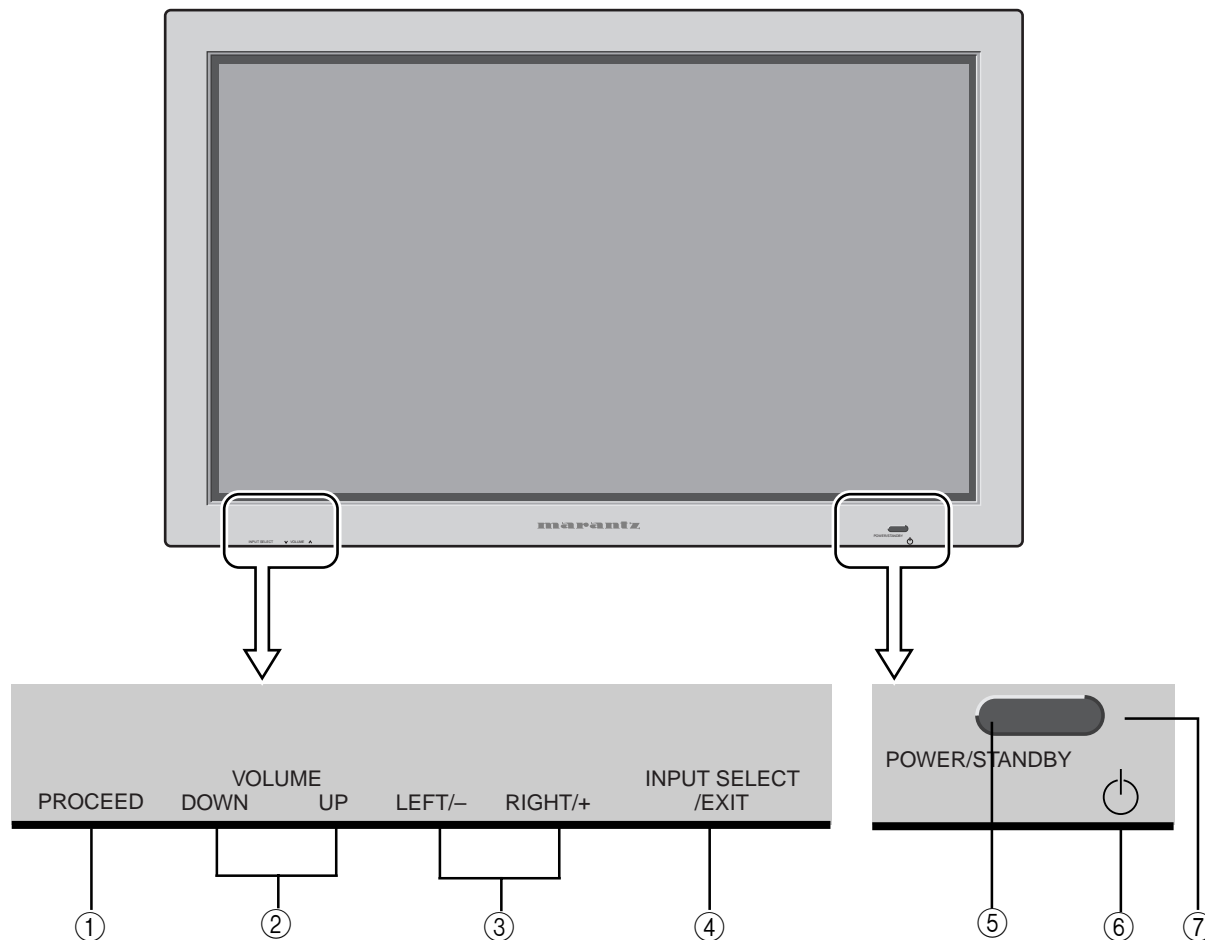


① **PROCEED**

Sets the on-screen display (OSM) mode and displays the main menu.

② **VOLUME Down and Up**

Adjust the volume. Functions as the CURSOR (▲/▼) buttons in the On-screen display (OSM) mode.

③ **LEFT/– and RIGHT/+**

Enlarges or reduces the image. Functions as the CURSOR (◄ / ►) buttons in the On-screen display (OSM) mode.

④ **INPUT SELECT / EXIT**

Switches the input, in the following order:

→ VIDEO1 → VIDEO2 → VIDEO3 → DVD/HD
└ RGB3 ← RGB2 ← RGB1 ←

Functions as the EXIT buttons in the On-screen display (OSM) mode.

⑤ **POWER/STANDBY indicator**

When the power is on ............................ Lights green.
When the power is in the standby mode ... Lights red.

⑥ **Power**

Turns the monitor's power on and off.

⑦ **Remote sensor window**

Receives the signals from the remote control unit.

3

# Rear View/ Terminal Board
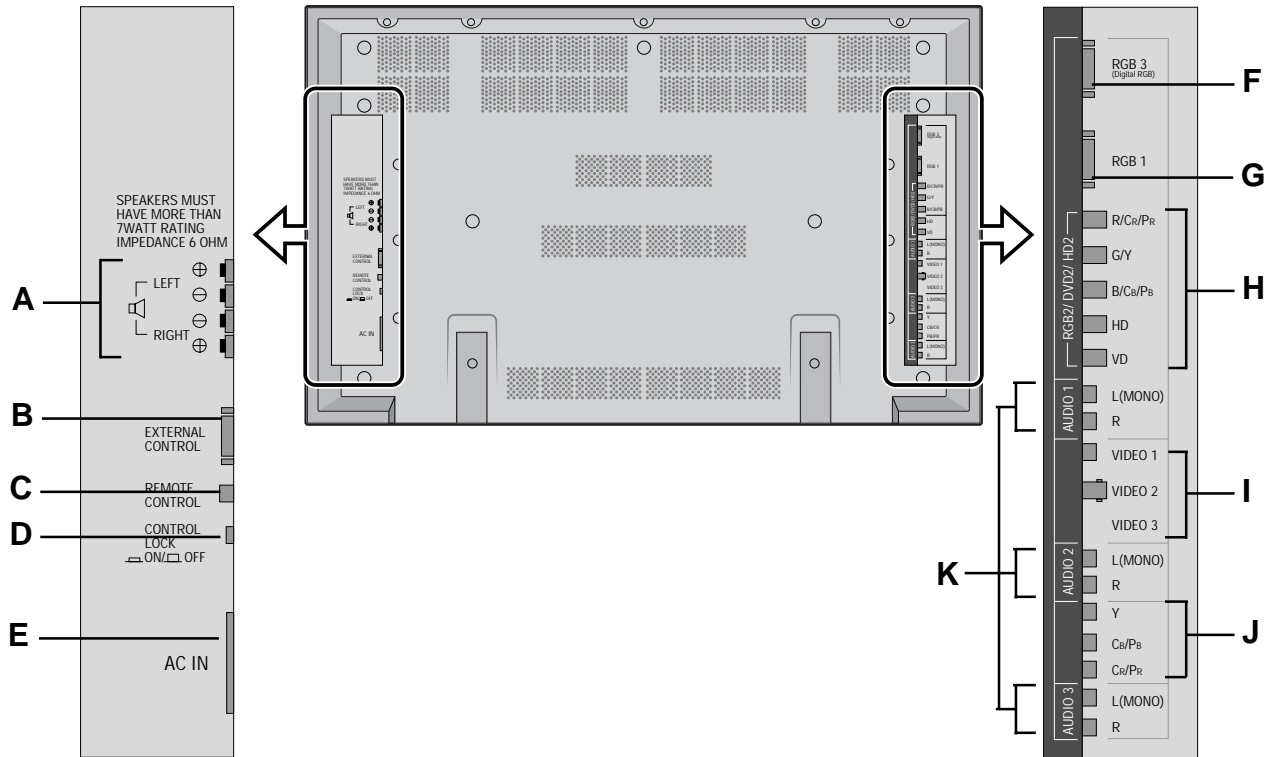


**A EXT SPEAKER L and R**
Connect speakers here.

**B EXTERNAL CONTROL**
This terminal is used when power ON/OFF, input selection and AUDIO MUTE and other controls are operated externally (by external control). See also page E-36 for external control.

**C REMOTE CONTROL**
Connect the supplied remote cable here.

**D CONTROL LOCK**
When "CONTROL LOCK" is set "ON", the buttons on the set's control panel do not function.

**E AC IN**
Connect the included power cord here.

**F RGB3 (DVI 29pin)**
Inputs a digital RGB signal (TMDS).

**G RGB1**
Inputs the analog RGB signal of personal computer, etc.

**H RGB2/ DVD2/ HD2**
RGB2:         Inputs the analog RGB signal.
DVD2/ HD2:  Connect DVD's, high definition Laser Discs, etc. here.

**l VIDEO1, 2, 3**
Connect VCR's, DVD's or LaserDiscs, etc. here.

**J DVD1 / HD1**
Connect DVD's high definition LaserDiscs, etc. here.

**K AUDIO1, AUDIO2, AUDIO3**
These are audio input terminals.
The input is selectable. Set which video image to allot them to on the menu screen.

# LCD REMOTE CONTROLLER RC2000MKII

- The remote control unit provided with the Plasma monitor is a "learning"-type, programmable unit capable of controlling almost any component in your system, as well as the Marantz D-BUS components (RC-5). The components to be controlled can be selected with ten buttons.

## OPERATION

The provided remote control unit (RC2000MKII) is a system remote controller. The POWER button ❺, 10-key numeric buttons ⓬ and control buttons ⓯ are used in common across different input source components.

The input source system controlled with the RC2000MKII, such as receiver and AV amplifer changes the input when one of the input selector buttons ❾ is pressed.

Example: To select the LD player as the input source for receiver and play an LD on it

Press the LD button twice with in 2 seconds.

The input function of the receiver is switched to LD and the RC2000MKII is set for control of the LD player.

Press the PLAY button ▶ to play an LD.

## FUNCTION AND OPERATION
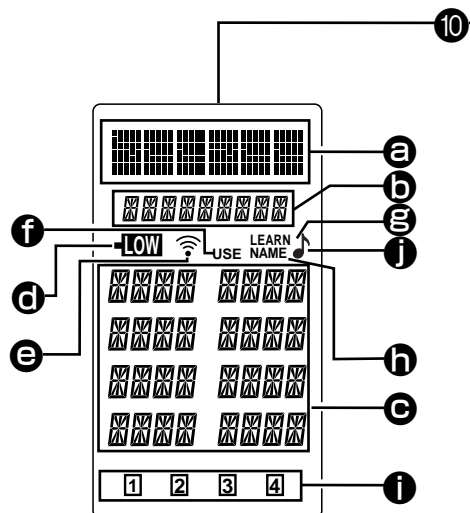


❶ **MODE (operating mode)**

This button is used to change from normal operation to the learning mode, and is used when "learning" commands from other brands of A/V components. Each time this button is pressed (using a small pointed instrument, such as the tip of a paper clip) the mode changes as follows: LEARN → USE → NAME. As the mode changes, the LCD display will show which mode is currently selected.
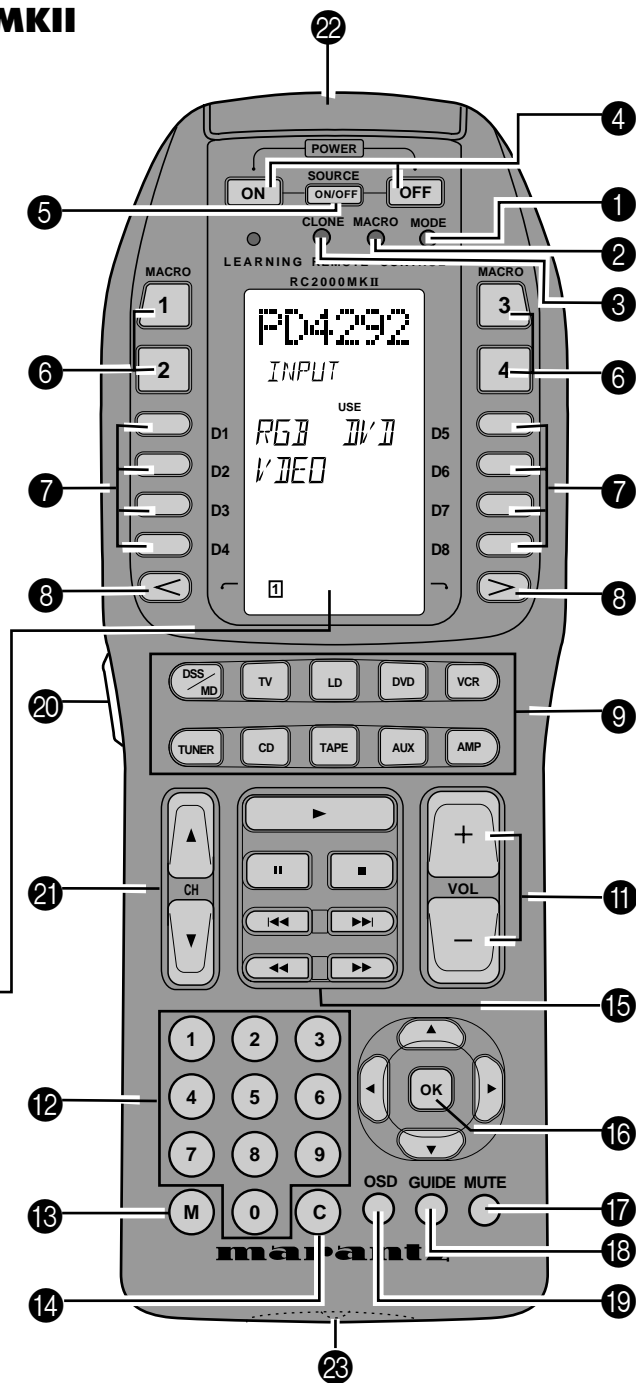
❷ **MACRO (for multiple step macro functions)**

This button is used to memorize a series of functions. When this button is pressed, the RC2000MKII changes to macro programming mode, and is ready to learn a sequence of remote control commands.

5

**❸ CLONE**

The RC2000MKII has the ability to "replicate" itself, downloading all of its internal pre-programmed and user-programmed commands to another RC2000MKII. This button is used when you wish to "teach" another RC2000MKII all of the customized commands you've already programmed in this RC2000MKII.

**❹ POWER ON and OFF**

These two buttons are used to turn the main component's (amplifier or receiver) AC power on and off. We provide both ON and OFF commands so that your A/V system is remote compatible with external infrared controllers, such as in-wall key pads, etc.

**❺ SOURCE ON/OFF**

This button is used to turn the AC power on and off to any of your A/V source components that have their own remote control turn-on and turn-off commands, such as TV, laser disc player, VCR, etc.

**❻ MACRO 1-4**

Each of these 4 buttons can be programmed with a "string" of commands, called a macro, to initiate a sequence of remote codes to achieve a particular result. For example, a macro button could be programmed to turn on the main system power, then turn on a particular source component (such as a laser disc player), then turn on the PD4292D, and then adjust the surround processor to the home theater surround decoding mode, then activate the laser disc player's PLAY function. This means that by pressing one macro button, you can achieve the same result as pushing up to 20 buttons in sequence.

**❼ DIRECT**

With today's high performance A/V systems, it is not unusual for each component in your system to have dozens of specialized command functions. If we were to duplicate all of those commands for each component onto the RC2000MKII key pad, we could easily exceed 300 buttons for an entire home theater system, which would result in either a huge key pad, or buttons of infinitesimal size. The DIRECT command buttons (4 on each side of the LCD display, 8 total) work with the PAGE buttons (4 pages for each source component) to provide up to 32 dedicated specialized functions for each of the 10 function input selectors. Each DIRECT function may also be provided with an alpha-numeric function indicator visible in the LCD display. You may even change the displayed name of each function to another name, if you wish.

**❽ PAGE**

Used to select any 1 of the 4 pages of 8 functions for each DIRECT button, as explained above.

**❾ FUNCTION**

Press one of these buttons once or twice to select a particular source component. For example, to set the amplifier or receiver to the laser disc input, press the LD button twice within 2 seconds. Along with the source selection, special functions may become available (the DIRECT keys), as well as activating the transport function keys, so that you can now directly operate the laser disc player from the RC2000MKII. If you wish, you may even re-program the status indicators in the LCD window to reflect your own particular function name whenever that source (function) button is selected.

Here are the button names and their functions:
LD : Laser disc player
TV : Plasma Monitor PD4292D
VCR : Video cassette recorder
DSS/MD : Digital satellite decoder or mini disc player
AUX : Can be used for an auxiliary source component
TUNER : AM/FM tuner, or AM/FM tuner section of a receiver
CD : Compact disc player or changer
TAPE : Audio tape deck, or digital audio recorder
AMP : Amplifier or receiver control functions
DVD : Digital video disc player

*Note: Press a function selector button only once to select the LD player, etc.*

*Remember, when you press a function selector button only once, the RC2000MKII will not send out a remote control code to instruct the amplifier or receiver to change to that corresponding input, but the RC2000MKII keypad and DIRECT function commands will provide the selected component's specialized remote control codes. Press a function selector button twice within 2 seconds to change the function of the amplifier or receiver.*

*For example, if you press the LD function button twice within 2 seconds, the amplifier or receiver's input will immediately be switched to the laser disc input, and the keypad and DIRECT function commands for laser disc operation will be activated. Press the CD function button only once, the amplifier or receiver's input will not switch to the CD input, however the RC2000MKII keypad and DIRECT function commands for compact disc operation will be activated.*

*We have provided 10 popular function command selector buttons, based upon the typical input selections available with most quality A/V amplifiers (or receivers) including popular Marantz models.*

*The function button DSS/MD is a little different from the others, in that when you press this button, the RC2000MKII will send out a command to the amplifier or receiver to switch to the DSS input, and then the*

6

**❿ LCD window**

The LCD window provides a wealth of information, including function selection name, DIRECT function names, learning and programming steps, as well as useful indicators for battery status, and helpful indicators. The LCD window features back-lighting, making it easy to view when the room ambient light is very low.

**⓫ Volume up (+) and down (-)**

Used to raise and lower the main system volume level. Note that these buttons are clearly the largest size, and are conveniently located and contoured for easy operation, even in low lighting.

**⓬ Ten keypad**

Like a telephone key pad, the ten number buttons (0-9) are used to enter numeric digits, useful for finding a specific track on a CD, or to tune a pre-set radio station, etc.

**⓭ MEMO**

This button is used to program your CD player's track memory, or to enter a VCR recording program, and can be used to provide the MEMO function included with other components in your system.

**⓮ CLEAR**

This button is used to cancel certain memory or programming operations.

**⓯ Transport control functions**

These buttons provide transport commands for your source components, such as laser disc player, CD player, VCR, audio tape deck, etc., and are dependent on the function source selected. For example, when the RC2000MKII is set to LD (laser disc) mode, the transport keys will operate the laser disc player's PLAY, STOP, PAUSE, FAST FORWARD, FAST REVERSE, NEXT and PREVIOUS track functions. Change the RC2000MKII function selector to VCR, and these keys will then operate the VCR's transport command functions, etc.

**⓰ CURSOR buttons**

Some components feature menus that are navigated with up, down, left and right direction commands. The cursor buttons can be used to navigate within on-screen menus, for components such as amplifier or receiver, PD4292D, DSS/satellite tuner, etc. These buttons are also used for certain RC2000MKII programming functions.

**⓱ MUTE**

For those components (such as amplifier or receiver, etc.) with a mute function, this button can be used to mute the sound temporarily.

**⓲ GUIDE**

This button is intended for owners of DSS (digital satellite system) or similar equipment, to activate the on-screen programming guide, used when changing channels etc.

**⓳ OSD (On Screen Display)**

Some components, such as an amplifier or receiver, PD4292D, etc., feature on screen display for operation and/or programming. The OSD button can be used to activate the on screen display, or turn it off if desired.

**⓴ LIGHTING**

Press this button to activate the back-lit LCD screen and back-lit keys independently SETUP mode. A quick touch is all that is necessary. The back-lighting will remain on for 3 seconds. If you wish, you can even re-program the RC2000MKII to shorten or lengthen the amount of time the back-lighting is activated when this button is pressed.

**㉑ Channel up(▲), down(▼)**

Press this button to change the tuner, DSS or VCR pre-set channels to upward or downward.

**㉒ Transmitter window**

Infrared signals will emanate from behind this window. Simply aim the RC2000MKII towards the component(s) you wish to control. You may find that the RC2000MKII works fine when placed on a coffee table pointing towards your A/V system components.

**㉓ Receiving window**

Used when learning commands from other remotes, this window is placed at the bottom of the RC2000MKII, so that the two remotes are vertically oriented for easy transfer of remote control information. Later in this guide we will show you which of the RC2000MKII buttons can be "taught" new commands from other components.

## Liquid Crystal Display (LCD) Window

Within this display, all operating messages (function name, mode names, etc.) are shown. When a particular button is pressed (such as a transport command, like PLAY), its status will be shown in the display for 1 minutes. The display will continue to show the source function selected continuously, however.

**ⓐ Function indication:**
The selected source function is displayed, such as LD, TV, etc., up to 6 characters maximum.

**ⓑ Status indication:**
The selected status of the present page, or other items, is displayed, up to 9 characters maximum.

**ⓒ Direct commands:**
8 DIRECT commands are available in 1 page, up to 4 characters maximum.

**ⓓ Battery indicator:**
When the batteries are running low, this indicator will become visible. At this point, it will not be possible to learn any new remote codes, but normal remote control operation is still provided (including the use of any previously learned codes). At this point, you should consider changing the batteries soon. As time goes on, and the battery power diminishes further, this indicator will begin blinking. At this point, no remote commands will be transmitted. This is your signal to replace the batteries with fresh ones as soon as possible. Eventually, if you ignore the blinking battery indicator and do not install fresh batteries, then the batteries may eventually be totally exhausted, and the LCD display window will be completely blank. However, any previously learned commands and macros will not be erased from the microprocessor's memory.

The RC2000MKII is supplied with a full set of RC-5 remote control codes in permanent (non-volatile) memory. Even if the batteries are fully exhausted, the RC-5 codes (used for Marantz A/V components) and learned codes will never disappear.

We recommend that you use a quality brand of alkaline batteries, for best results and longest life. Newly available lithium "AA" batteries can even provide longer life than alkaline batteries, and are also recommended.

**ⓔ Transmit indicator:**
When a button is pressed, this indicator shows that an infrared code is being transmitted.

**ⓕ USE indicator:**
For normal operation, the USE indicator should be visible.

**ⓖ LEARN indicator:**
Visible when the RC2000MKII is set to LEARN mode.

**ⓗ NAME indicator:**
Visible when the RC2000MKII is in the learning mode, and function naming is being changed.

**ⓘ PAGE or MACRO indicator:**
This indicator usually functions in association with the PAGE button ,, but also functions as the MACRO indicator when tne MACRO button n is pressed.

**ⓙ ♪ indicator:**
Visible when the RC2000MKII is set the beep function.

## Installing the batteries:

The battery compartment is located on the rear panel. Please use only alkaline or lithium batteries, "AA" size. The RC2000MKII requires four AA batteries. There are markings in the battery compartment to show you the proper battery orientation. If after installing the batteries, you cannot see any indication in the LCD window when a button is pressed, re-check to ensure that the batteries are properly positioned in the compartment.

8

## RC2000MKII Basic Operation

### USE Mode:

As supplied from the factory, the RC2000MKII is already permanently programmed with many pre-set commands common to Marantz and Philips equipment, as well as other brands of components that utilize the Philips RC-5 remote control language.

1. If the RC2000MKII is in another mode (LEARN, etc.), press the operation mode button ⒈ with the tip of a paper clip, until the USE indication appears.
2. Press one of the function buttons ⑨, such as LD (refer to Figure 1).

**Figure 1**

```
     LD
  MODE
          USE
  SD-A RPTA
  SD-B RPTB
  DISP CP/F
  AMS  EDIT
  1  2  3  4
```
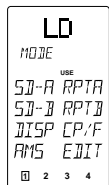
3. "LD" will be indicated within the LCD window, and the function codes will be set to operate the laser disc player, press the function button again within 2 seconds as well as changing the amplifier or receiver's input to laser disc.
4. Now you can operate the laser disc player. When a button is pressed, the 📶 symbol indicates that a remote code is being transmitted. Note that for a particular source component, not every button may have a command programmed for it. In that case, nothing would be indicated.
5. Using the DIRECT buttons D-1 through D-8, PAGEs 1 through 4, up to 32 different specialized commands are available for each FUNCTION, up to a total of 320 specialized commands (32 direct commands times 10 functions). Note that for any particular function selector, not all 32 direct commands may be provided and/or named as supplied from the factory.
6. For example, the RC2000MKII is supplied from the factory with 3 pages of DIRECT commands for the LD (laser disc) function. To change pages, press the page direction ◀ or ▶ buttons ⑧ :

Page 1: MODE:       Side A/B laser disc playback functions
Page 2: L    D:       Specialized laser disc functions
Page 3: R E C:       Recording from laser disc to VCR functions

At this point, you may wish to put this guide aside temporarily, and begin using the RC2000MKII with your A/V system. If you already have any Marantz components, or Philips and/or other brands of components that use the RC-5 remote control language, you can begin controlling those components with the RC2000MKII right away. Take some time to become comfortable with the operation of the RC2000MKII. We think that its intuitive key pad layout and easy to read LCD window will permit you to quickly become familiar with its operation.

If you do not have any Marantz or other brands of components that use the Philips RC-5 remote control language, then you may wish to proceed to the next section, which will describe the steps necessary to "teach" your RC2000MKII remote codes from other components you may have in your system.

### LEARN mode:

The RC2000MKII has the ability to learn remote codes for just about any component in your A/V system. If the original component was supplied with an infrared remote control, its commands can be learned by the RC2000MKII. If you have another brand of laser disc player, for example, you can program the RC2000MKII with its codes.

For example, we'll show you how to "teach" the RC2000MKII commands from another brand of laser disc player.

1. Using a sharp point (such as the tip of a paper clip), press the operation MODE button ⒈. Within the LCD display, the LEARN indicator will begin blinking.
2. Place the laser disc player's supplied infrared remote controller so that its transmitter window (usually at the top) is facing the infrared sensor window of the RC2000MKII (at the bottom), about 5 cm (2 inches) apart.
3. Press the LD function button on the RC2000MKII.
4. Press the play button ∕5 on the RC2000MKII.

5. Press and hold the corresponding play button on the laser disc player's remote transmitter until the "OK" indicator appears in the RC2000MKII LCD window (see Figure 2) or the beeps sounds emit (if the beep sound function is set ).

**Figure 2**

```
     LD
  OK         LEARN
  SD-A RPTA
  SD-B RPTB
  DISP CP/F
  AMS  EDIT
  1  2  3  4
```
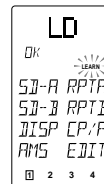
If the "AGAIN" indicator appears in the RC2000MKII LCD window, it means that for some reason the command was not properly learned. Repeat steps 3, 4 and 5 above.

In the unlikely event that an infrared command cannot be learned by the RC2000MKII, "NG" (no good) will appear in the LCD window, meaning that the command is not "learnable". The RC2000MKII has been tested for compatibility with a very wide range of infrared remote control frequencies and data word lengths, but in some very rare instances, it may not be possible to learn a particular remote control command.

Continue to "teach" the RC2000MKII the rest of the source transmitter's transport function commands, such as stop, pause, next, previous, fast forward and rewind, by repeating steps 3, 4 and 5 above.

6. Proceed to learn the numeric "10 keys" from the source transmitter to the RC2000MKII's 10 key numeric pad ∕2 by repeating steps 3, 4 and 5 above.
7. For each additional function, such as TV, VCR, etc., repeat steps 3, 4 and 5 above. During the LEARN operation, if any button is not pressed within 1 minute, the RC2000MKII will revert back to the previous (non-LEARN) operating mode (USE).
   • To make a function button learn a code, switch the input function then press the button again.
8. After memorizing all desired remote codes, press the operation mode button ⒈ with the tip of a paper clip, and select the USE mode. The LCD display window will continue to display the USE indicator, and all of the newly memorized codes will be available (see Figure 3).

**Figure 3**

```
     LD
  MODE
          USE
  SD-A RPTA
  SD-B RPTB
  DISP CP/F
  AMS  EDIT
  1  2  3  4
```
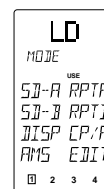
For any button for which a new code was not learned, the factory programmed RC-5 code will still transmitte as usual.

**Note:** *POWER ON/OFF ④ code can be learned regardless of the function button selection:*

### Programming the DIRECT mode buttons ⑦ :

The following example will show how to memorize the SIDE-A function command of another brand of laser disc player into the D1 direct button.

1. Using a sharp point (such as the tip of a paper clip), press the operation MODE button ⒈ to switch the RC2000MKII to LEARN mode.
2. Place the laser disc player's supplied infrared remote controller so that its transmitter window is facing the infrared sensor window of the RC2000MKII about 5 cm (2 inches) apart.
3. Press the LD function button ⑨ on the RC2000MKII.
4. Using the direct function page keys ◀ and ▶ ⑧, set the direct function to Page 1. Press the D-1 button ⑦ on the RC2000MKII.

9

5. Press and hold the corresponding SIDE-A button on the laser disc player's remote transmitter until the "OK" indicator appears in the RC2000MKII LCD window or beep sounds emit. The RC2000MKII changes to the RENAME mode automatically as next step. A function name of the DIRECT function button is blinked, you can re-name this blinking function name. You input the desired letter or number with the ten keypad. (See the table in step 3 of the next procedure to referece.) If you need not to rename, press the OK button and other button except the ten keypad.

6. Now, proceed to program the other commands from the laser disc player's remote transmitter to the other DIRECT function buttons (D2-D8). When you have "taught" all 8 direct functions for Page 1, press the page direction key ▶ ⑧ to go to Page 2, and you can program more direct function keys.

7. After memorizing all codes to all DIRECT function buttons, press the operation MODE button ① with the tip of a paper clip and return the RC2000MKII to the USE mode. Now, the newly memorized codes are usable from the RC2000MKII.

If you wish, you can re-write the names for each function name, status name, and the direct function command names as follows:
For our example, you can change the LCD display window indication from "LD" to "LV-520" (which is the model number for a Marantz laser disc player). Remember, you can re-name a function selector button with a new name of up to six characters of letters and numbers in any combination.

1. Using the tip of a paper clip, press the operation MODE button ① until the NAME indicator appears and begins to blink in the LCD window.

2. Choose a button that you wish to re-name, in this case, press the "LD" function button ⑨. In the LCD window, the first character of the six function character display indicators starts blinking "A", which is the first letter of the alphabet.

3. Choose the desired letter or number by pressing the 10 keypad buttons ⑫. Each 10 keypad button has 4 characters attached to it as follows:

| 10 key pad button | Press, press again, press again, etc. | |
|---|---|---|
| 1 | 1 → A → B → C → 1 → | ........etc. |
| 2 | 2 → D → E → F → 2 → | ........etc. |
| 3 | 3 → G → H → I → 3 → | ........etc. |
| 4 | 4 → J → K → L → 4 → | ........etc. |
| 5 | 5 → M → N → O → 5 → | ........etc. |
| 6 | 6 → P → Q → R → 6 → | ........etc. |
| 7 | 7 → S → T → U → 7 → | ........etc. |
| 8 | 8 → V → W → X → 8 → | ........etc. |
| 9 | 9 → Y → Z → / → 9 → | ........etc. |
| 0 | 0 → + → — → SPACE → , → ' → 0 | ........etc. |

So, in the above example, by pressing the 10 keypad number 4 four times, you get the letter "L" to appear in the display (see Figure 4).

**Figure 4**
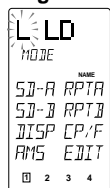
4. You use the cursor buttons ◀ and ▶ ⑯ to move to the next character in the display. By pressing the right cursor button ▶, the letter "L" is confirmed in the first character space in the LCD window and the next character position begins blinking. If you wish to erase a previously memorized character, position the cursor over the character and put the SPACE character in its place (the SPACE character is ten key pad number 0 pressed four times, from the above character chart).

5. Continuing along, re-write the remaining letters "V", "–", "5", "2", and "0". By pressing the cursor keys ◀ and ▶, each character is confirmed in place. When you go to other DIRECT function pages by using the page function keys ⑧, characters in the previous page are also confirmed in place.
The name re-writing operation must be done on a function by function basis, that is, re-write the names for all of the LD direct functions, then switch to another function such as VCR, and begin the re-writing process anew to re-name the VCR direct function commands.

**How to re-write the STATUS name:**
Using the same steps as outlined above, you can re-write the 9 character status name. During step 5 above, by pressing the up and down cursor keys ⁄6 the left side of the status indicator begins blinking, and you can change its display according to the same method outlined above, using the 10 keypad character generator. Remember, to confirm each character change, use the cursor keys ◀ and ▶. As above, when you change the direct function page by pressing the page direction keys ⑧, this will confirm the re-written characters in place as well for the page you just finished re-naming. You have up to 9 letters, numbers or other characters available for each status name.

**How to re-write the DIRECT function button names:**
You can change the name for each of the 8 direct function buttons by using the steps described above to change main function name and status name. Remember, each main function has 8 direct function buttons on each of the 4 pages, so you have up to 32 direct functions that can be re-named, if you wish, for each of the 10 main function selection buttons ⑨. You have up to 4 characters available for each direct function button name.
After completing all re-writing of any of the names, press the OK button within the cursor keys ⑯, or switch to another function button (such as CD). If, during re-naming, a button has not been pressed for 1 minutes, the RC2000MKII will revert to the prior operating mode (USE) automatically.
If re-writing of all of the desired direct mode functions has been completed, use the pen tip to press the operation MODE button ①, and select the "USE" mode. Now, all of the re-written names are available for use.

**How to clear (erase) the memorized codes (and any re-written names):**
The RC2000MKII has a high capacity RAM, which ordinarily will allow the learning of several hundred remote codes (and their associated new names, if desired). However, due to the fact that some remote codes occupy more memory space than others, it is possible that the available RAM fills up completely, and the "FULL" indicator appears in the LCD window. In this case, it will not be possible to learn any new remote codes without first deleting some or all of the previously learned remote codes and/or re-written names. There are 4 ways to erase learned remote codes from memory:
   • Erasing by button(s)
   • Erasing by DIRECT button(s)
   • Erasing by function(s)
   • Erasing all memory contents (complete erasure)
   •• Note that the factory-programmed RC-5 codes are not stored in RAM, and are therefore not erasable.
For any of these memory erasure options, you must first set the RC2000MKII to LEARN mode.

**Erasing the memory assigned to a particular button:**
Press and hold the CLEAR button ⁄4 and press the button that you wish to erase 2 times. The code previously learned by that button will be erased, and will then be either empty, or the original factory provided RC-5 code will re-appear in its place.
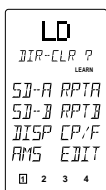
**Erasing the memory assigned to a DIRECT buttons:**
All codes and names which were previously memorized for each of the functions (such as TV, LD, VCR, etc.) in pages can be erased. Press and hold the CLEAR button 14 and press the < or > button 8 2 times. You will see the "DIR- CLR?" (direct button - clear?) indication in the LCD window (see Figure 5). If you wish to go ahead and clear all of the memorized codes for that DIRECT button (8 buttons × 4), press the OK button

**Figure 5**

```
  LD
DIR-CLR ?
      LEARN
SD-A RPTA
SD-B RPTB
DISP CP/F
AMS  EDIT
1 2 3 4
```

**Erasing the memory assigned to each function command set:**
All codes and names which were previously memorized for each of the functions (such as TV, LD, VCR, etc.) can be erased.
Press and hold the CLEAR button 14, and press the function button that you want to erase 2 times. You will see the "FNC - CLR?" (function - clear?) indication in the LCD window (see Figure 6).

**Figure 6**

```
  LD
FNC-CLR ?
      LEARN
SD-A RPTA
SD-B RPTB
DISP CP/F
AMS  EDIT
1 2 3 4
```
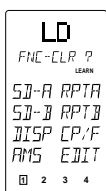
If you wish to go ahead and clear all of the memorized codes for that function button, press the OK button within the cursor keys 6. After clearing the memory contents for that function, the RC2000MKII will restore any factory programmed RC-5 codes for the function, if any, or will simply be empty.
If you want to cancel the memory clear operation, do not press the "OK" button, but instead simply touch any other button. When you clear all the commands associated with a function button, all of the learned direct function commands (D-1 through D-8, pages 1 through 4) and control buttons, ten keypad, etc are cleared as well.

**Complete erasure:**
While holding the CLEAR button 14 depressed, press both of the ON and OFF POWER buttons 4 simultaneously; "ALL-CLR?" is displayed on the LCD window (see Figure 7).

**Figure 7**

```
  VCR
ALL-CLR ?
      LEARN
CH+  DTR
CH-  REC
SLCT PAUS
AUD  STOP
1 2 3 4
```
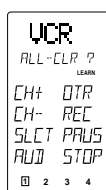
If you wish to finalize the complete erasure process, press the OK button within the cursor keys 16. If you do not wish to proceed with the complete erasure process, simply press any key other than OK. Remember, the RC-5 codes as supplied from the factory cannot be erased from memory, but they can be replaced with different codes as you wish.
• By now, you have learned how to memorize codes from other brands of components, including changing the various function, status, and direct function names.
Before continuing on to the more advanced RC2000MKII programming techniques, you may wish to continue "teaching" the RC2000MKII remote control with any or all other commands for other components in your system. When you feel you've transferred as many different commands from other components into the RC2000MKII as you'd like, and possibly changed some or all of their names as well, then feel free to proceed to the next section.
• The all-clear operation takes about 15 seconds after the OK button is pressed.

## Advanced Programming Techniques
### Macro mode:
The word "macro" is used to describe a series of specific steps carried out in sequence. For example, a word processing program can use macros to carry out common repetitive typing tasks. During the day to day operation of an A/V system, you might find yourself pressing the same combination of remote control buttons often.
The RC2000MKII features the ability to "learn" a sequence of infrared commands, and "assign" that sequence to a single button, called a MACRO button 6. Then, when you want to achieve a specific result, you can activate a macro button to begin sending out a series of commands. For example, suppose you wish to activate your A/V system, and watch a movie on laser disc. A single macro button could send out the following commands in this suggested sequence:
• Turn the main amp power on, then turn the TV power on, then switch the TV to the AUX video input, then change the amp to the laser disc (LD) input, then turn the LD player power on, then activate the LD play command, then set the amp surround sound mode to Dolby Pro Logic.
The above 7 step sequence can be programmed into a single macro button, and can be used anytime you want to watch a LD movie. Other macro functions could be used for CD listening, or any other sequence of steps that you regularly perform while controlling your A/V system.
Macro commands are available when the RC2000MKII is set to either USE modes.
To program a macro, first identify which commands you wish to memorize, and note if any commands must be in a specific order (for example, before you can activate an amplifier's surround mode, the amp must first be turned on).

1. Press the MACRO 2 operation mode button with the tip of a paper clip. Within the LCD window, the MACRO indication appears, then the LEARN indicator starts blinking (see Figure 8).

**Figure 8**

```
MACRO
      LEARN

MACR PROG
1 2 3 4
```

If a macro was previously programmed, one or more of the numeric indicators at the bottom of the LCD window will appear with a box around it.
2. Press macro button 1 6 to begin memorizing the various codes. In the LCD display window the indicator "M1-00" appears in the status line b (see Figure 9).

**Figure 9**

```
MACRO
M1 00
      LEARN
CD+  TRAY
CD-  TIME
FTS  REPT
RNDM AMS
1 2 3 4
```
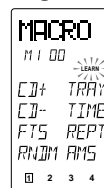
The "M1-00" indication signifies Macro number 1, no steps yet programmed. As each macro step is programmed, the "00" indicator will advance by one digit-"01", "02", etc. After the first macro step is programmed, two additional digits (with a decimal in between) become visible at the end of the status line, showing the timing value for each step (see Figure 10).

**Figure 10**

```
  CD
M1 01 0.5
      LEARN
CD+  TRAY
CD-  TIME
FTS  REPT
RNDM AMS
1 2 3 4
```
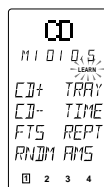
3. Press the command buttons in the desired sequence. When you press a command button to be learned into the macro sequence, its name will appear within the LCD window. Every time you press another remote command, the macro step number increases one by one.

4. It is possible during macro programming to adjust the timing of the interval between several macro steps. Using the cursor keys /6, the interval between macro playback steps can be increased or decreased in 1/2 second steps, over the range beginning at 1/2 second up to 10 seconds. For example, when the indicator shows "0.5 SEC", if you press the ◀ direction key, the interval time would change to 10 seconds, then with another press of the ◀ direction key, it would change to 9.5 seconds, etc. Use the ▶ direction key to increase the interval time, and use the ◀ direction key to decrease the interval time.

Some equipment may not be able to receive infrared commands in one-half second steps. If after programming a macro you find that the sequence was not properly carried out, you may wish to experiment with different sequence timings to obtain the correct operation results, by using the adjustment method described above.

Within each macro button, up to 20 steps can be memorized. In the event that you wish to memorize more than 20 steps per macro, then press another MACRO2 button 6 , and follow the above operations. A maximum of 80 steps can be programmed this way. However, you will probably find that 20 steps is more than enough to carry out even the most complex macro instructions to achieve a specific home theater operating result.

**Note:** *To memorize the cursor button* 16 *, press and hold the LIGHTING button* 20 *before pressing the cursor button.*

**When programming macro steps, note that the following buttons would not normally be included in a macro sequence, and are therefore not available for inclusion in a macro:**
MODE 1 , MACRO 2 , CLONE 3 , PAGE 8 , VOLUME 11 , MEMO 13 , CLEAR 14 and LIGHTING 20 .

To check to see which MACRO buttons 6 have been programmed with macros, at the beginning of the macro learning sequence the four numerical (1 through 4) indicators at the bottom of the LCD window will show a box around the number for each MACRO button that already has a macro assigned to it (see Figure 11, which shows that only MACRO button number 1 has a macro assigned to it).

**Figure 11**

```
PLAY
M1-03 0.5
      LEARN
CD+   TRAY
CD-   TIME
FTS   REPT
RNDM  AMS
□1  2  3  4
```

In the event that you wish to revise a programmed macro sequence, search the step number you wish to change by using the cursor button ▲ and ▼ /6, and then re-enter the new command. If you memorized different commands than have already been programmed, then the previous macro sequence will be erased and re-written over with the new sequence. To add the new command, press the MEMO button at your desired point. To delete the sequence, press the CLEAR button at your desired point.

During macro programming, if a button is not pressed within 1 minutes, the mode will automatically revert to the original mode (USE).

When you have completed the macro programming sequence, press the MACRO 2 operation button with the the tip of a paper clip. The "END" indication appears in the LCD display window. When you release the MACRO button, all indications will revert to the initial status.

There is one more important point to note about programming a macro sequence. During a macro sequence, you may include more than one function selection button to access some transport and/or other commands. Depending on the macro sequence, this might result in the amplifier or receiver's function selection to be inadvertently changed as well when the macro is played back. The RC2000MKII has a special feature to prevent this from occurring, allowing you to access the special commands available under each RC2000MKII function button during a macro playback sequence, while at the same time prevent the amplifier or receiver from constantly switching its input source back and forth at the same time.

During the programming sequence, just remember that if you wish to activate a specific input selector on your amplifier or receiver, make sure that you press the desired input selection button FIRST. Subsequent function button selections can be incorporated in the macro sequence, but on playback, the RC2000MKII will only send out a function selection infrared command to the amplifier or receiver based upon the first function command used in the macro sequence.

For example, you may wish to have a macro sequence which activates the laser disc player input on your amplifier or receiver, and then have additional commands in the sequence to instruct your TV set to switch to an external video source to receive the laser disc video signal. During the macro programming, make sure that you press the LD function selector button BEFORE you press any of the other function selector buttons in the sequence. You can then include any of the TV commands by pressing the TV function selector button, later in the sequence. When this macro is next used (played back), the RC2000MKII will send out the command to change the amplifier or receiver's input selector to laser disc input (since its function selector button was the first one programmed into that macro sequence), and will not subsequently change the amplifier or receiver's input to TV (but will send out any special TV commands that you included in the macro sequence).

**Note:** *To AMP button is not include the above functions buttons.*

**Programming a macro under a function selector key:**
If you wish, you can also program a macro that can be activated by pressing one of the function selector 9 keys. The programming steps are similar to the steps outlined for programming a macro number button 6 . The following example shows how to program a macro under the LD (laser disc) function selector 9 :
(activate the main amplifier's power on, switch the source to laser disc, switch the amplifier's surround mode to PRO LOGIC, switch on the television, switch to the television's AUX video input, power up the laser disc player, and begin laser disc playback)

1. Press the MACRO 2 operation mode button with the tip of a paper clip.
2. Press the LD function button 9 .
3. Press the following buttons:
   POWER ON, LD, AMP, direct function D-5 (PRO LOGIC selector) in page 1, TV*, SOURCE ON, direct function D-4 (VIDEO input selector) in page 1, LD*, SOURCE ON, and PLAY.
4. Press the MACRO 2 button with the tip of a paper clip. The RC2000MKII will revert to the normal mode and save the macro under the LD function button.
5. To execute the new macro sequence, press twice and hold the LD function selector button for 3 seconds.

**Using the macro function(s) you have programmed:**
1. Press the desired MACRO ⑥ button. The corresponding macro number will appear at the bottom of the display window, OR if a macro has been programmed under a function button, press the MACRO ⑥ button twice and hold that function button for 3 seconds. The LCD display window will indicate the macro number in the LCD window (see Figure 12), or if a macro is programmed under a function key, the status line will display the macro under function buttons as follows:

**Figure 12**
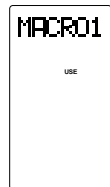


| Macro under function button: | Status line shows: |
|---|---|
| LD | "LD" as the first 2 characters in the line |
| TV | "TV" as the first 2 characters in the line |
| VCR | "VC" as the first 2 characters in the line |
| DSS/MD | "DS" as the first 2 characters in the line |
| AUX | "AX" as the first 2 characters in the line |
| TUNER | "TU" as the first 2 characters in the line |
| CD | "CD" as the first 2 characters in the line |
| TAPE | "TP" as the first 2 characters in the line |
| DVD | "DV" as the first 2 characters in the line |
| AMP | "AP" as the first 2 characters in the line |

2. The macro sequence will begin, and the remote control codes will be sent from the RC2000MKII and the display will show the names of the transmitted codes.
3. When the macro transmit sequence has ended, the RC2000MKII will return to the same mode before the macro function was initiated.

**Now that we've explained how to program a macro, perhaps the following suggested example can help you become more familiar with the process:**
(to switch the RC2000MKII to CD, then initiate CD playback, and go to track 3 on the CD)

1. Press the MACRO x operation mode button with the tip of a paper clip.
2. Press one of the MACRO buttons (1 through 4).
3. Press the following buttons:
   • CD function selector, then numeric key pad 3, then transport control key pad PLAY key. (see Figures 13, 14, and 15)
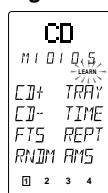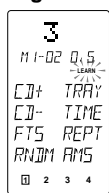
**Figure 13    Figure 14    Figure 15**



Note that this sequence will operate a Marantz CD player (or any other CD player equipped with the RC-5 remote control language). If you have another brand of CD player, you may wish to check its owner's manual to see if direct track selection is possible via remote, or if the macro sequence needs to be adjusted according to the programming steps required by your CD player.

4. Press the MACRO ② button with the tip of a paper clip. The RC2000MKII will revert to the normal mode (see Figure 16).

**Figure 16**
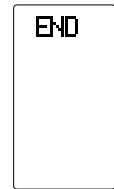


5. Press the MACRO ⑥ button you desired. RC2000MKII will transmit the programmed code. (see Figures 17, 18, and 19)
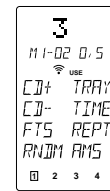
**Figure 17    Figure 18    Figure 19**



**Note:** *If you would like to cancel the MACRO function, press the STOP⑮ button.*

**Now, we'll show you another macro programming example, with a more sophisticated sequence:**
(activate the main amplifier's power on, switch the source to laser disc, switch the amplifier's surround mode to PRO LOGIC, switch on the television, switch to the television's AUX video input, power up the laser disc player, and begin laser disc playback).
1. Press the MACRO ② operation mode button with the tip of a paper clip.
2. Press one of the MACRO buttons (1 through 4).
3. Press the following buttons:
   POWER ON, LD, AMP, direct function D-2 (PRO LOGIC mode), TV*, SOURCE ON, direct function D-4 (VIDEO input selector), LD*, SOURCE ON, and PLAY.
4. Press the MACRO ② button with the tip of a paper clip. The RC2000MKII will revert to the normal mode.
5. To execute the new macro sequence, press the appropriate MACRO button (1 through 4) that you chose at the beginning of the above programming sequence.
6. RC2000MKII will transmit the programmed code.
   • Note that the function selector buttons TV and LD marked with an asterisk (*) in this macro sequence do not actually send out infrared codes, but simply change over the RC2000MKII's programmed memory code banks for those respective functions.

If you would like to clear the MACRO programmed sequence(s), press and hold the CLEAR ⑭ button and simultaneously press the appropriate MACRO button (1 through 4) or function button. "M1-CLR?" (macro 1-clear?) appears in the LCD window. Release the buttons, and then press the OK button (within the cursor control buttons), and the macro is erased. If you do not wish to erase the macro, simply press any other button (but not the OK button ).

**CLONE mode:**
Duplicating the memory contents of one RC2000MKII to another RC2000MKII.
For a complete home theater system, with numerous components from many different manufacturers, you may find that you have stored dozens, even hundreds of different codes, along with specialized names, macros, etc. We have provided a very quick and simple procedure that allows you to download the entire customized memory contents of one RC2000MKII remote control into another, fresh RC2000MKII.

13

**To "clone" (duplicate) the memory contents of one RC2000MKII into another RC2000MKII, please follow these steps:**

1. Place the source RC2000MKII (the one with all of the customized commands, names, macros, macro sequences, and the like) with its infrared transmitter window 22 facing the infrared sensor 23 of another "fresh" RC2000MKII (5 cm, or 2 inches apart).

2. Press the CLONE button 3 of the source RC2000MKII with the tip of a paper clip, and select "CLONE TX" (clone transmit) mode (see Figure 20).

**Figure 20**

```
CLONE TX
```
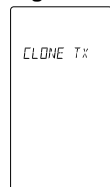
3. Press the CLONE button 3 of the learning (receiving) RC2000MKII with the tip of a paper clip or a similar object, and select "CLONE RX" (clone receive mode). Then press the PLAY button 15.

**Figure 21**

```
CLONE RX
```
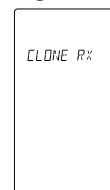
4. Press the source RC2000MKII's transport control PLAY 15 button to begin the infrared data transmission sequence. If you wish to duplicate only 1 to 8 function's memory, press function button(s) you wish before pressing the PLAY button. Now the "LEARN" indicator starts to blink. (see Figure 23)

| **Figure 22** | **Figure 23** |
|---|---|
| ▮▮▮▮▮<br>CLONE TX<br>📶 | ▮▮▮▮▮<br>CLONE RX<br>LEARN |
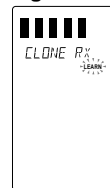
After all bars are lit up on both displays, "TX OK" (transmission OK) will appear in the source RC2000MKII's LCD window, and "RX OK" (reception OK) will appear in the "cloned" RC2000MKII's LCD window, confirming the end of the copying process (see Figures 24 and 25).

| **Figure 24** | **Figure 25** |
|---|---|
| TX OK<br>CLONE TX | RX OK<br>CLONE RX<br>LEARN |

Please be sure that, during the copying process, neither RC2000MKII is physically disturbed (ideally, they should be placed on a table or other surface, and not hand-held during the copying process). If, for some reason, the copying process was interrupted, the "clone" RC2000MKII's LCD display window will indicate "RX NG" (reception no good). Simply begin the clone process anew by repeating the above steps.

> **Note:** *The cloning is available between the same remote control unit series only therefore the RC2000MKII cannot be cloned by RC2000.*

5. It the source RC2000MKII's memory contents are at or near full capacity, the copying process will take about 3 minutes. After completion of the copying (cloning) process, press the CLONE button 3 on both RC2000MKII's with the tip of a paper clip, and select the OFF mode.

Then, you'll have two identically programmed RC2000MKII remotes, one of which can again be used as your system's primary remote control, and you'll have the added confidence of knowing that in the event of inadvertent programming (or memory contents being cleared somehow), you can simply retrieve the "backup" RC2000MKII that you've safely tucked away, and within minutes restore the programming contents of the original RC2000MKII with your customized configuration.

## Other Functions

**The Marantz RC2000MKII includes the ability to tailor the lighting features according to your preferences. As supplied from the factory, the RC2000MKII has a lighting features (and lighting timings):**

1. The lighting time is set at the factory for a period of 2 seconds which you can change if you prefer a different lighting time. If you wish to maximize battery life, you can defeat the lighting function entirely. There is also a lighting button 20, so that in any light situations, you can activate the backlighting feature. The lighting time in this case is set at the factory for a period of 2 seconds, which you can also change. If you wish to conserve battery power, you can de-activate the lighting function entirely.

### RC-5 Shipped destination:

As mentioned earlier in this guide, the RC2000MKII is provided with many commands from the factory with infrared codes conforming to the Philips RC-5 remote control language (used by Marantz, Philips, and some other companies). We have provided two different RC-5 command code sets in the RC2000MKII, according to the local requirements of different markets and the different types of remote control codes used in those markets. One code set is for North American (US) users, while the other code set is for REST users. Your RC2000MKII has been set at the factory for US (United States) codes. It can be easily changed, if you wish.

### Set-Up:

To change the lighting time(s), or the destination setting, please follow these steps:

• Select the SETUP mode, by holding the MEMO button 13 and at the same time press the OK button within the cursor keys ∕6. (see Figures 26 and 27)

| **Figure 26** | **Figure 27** |
|---|---|
| SETUP<br><br>LAMP 5 S<br>BEEP OFF<br>VER USA<br>TIMR 0 M | SETUP<br><br>LAMP OFF<br>BEEP +++<br>VER REST<br>TIMR 30 M |

**LAMP - Lighting function ON or OFF and TIME**

Press the D-5 direct function button, and you can then set the time (in seconds) directly using the numeric key pad [12] buttons. A time figure consisting of only 1 digit can be input by pressing the figure then waiting for 2 seconds or input "0" before entering a desired digit. You can set time in the range from 0 up to 60 seconds (which would use up more battery life than a lower figure, such as 3 or 5 seconds). "2" is set when shipped from the factory. You can set "OFF" to input "0".

**BEEP sound**

The beep sounds when press any buttons.

The beep sound level can be set to decrease or increase by pressing the D-6 button. The display indicates "+" indication and the beeps are sounded by pressing the D-6 button. The "+" indication is followed the "+" indication as the beep sound is increased; + → ++ → +++ → ++++

When the "++++" is indicated and the D-6 button is pressed, the mininum level "+" is set.

"♪" is indicated in LCD window when the beep sound is set.

*Note: The beep sound is different between the function buttons and other buttons.*

**VER**

Press the D-7 direct function button to switch between US to REST.

If you need to change this function, we recommend that you make the change before you begin "learning" any new infrared codes for other brands of equipment in your system.

*Note: The name of the DIRECT button will be erased by changing the VER(sion).*

**Battery life:**

• Battery life will vary from user to user, if the remote is used constantly or only occasionally, including the amount of backlighting usage. We feel that you can expect the batteries to last about 4 months, based upon 15 remote control operations per day (every day), and 3 lighting operations per day (every day). If the remote is used more often, and if the lighting times are set to longer times than the factory settings, then the battery life may be shortened somewhat.

• As explained earlier in the guide, the RC2000MKII's sophisticated battery conservation system will advise you long before the battery power is fully exhausted, and will further warn you to replace the batteries by simply becoming inoperative at a certain point. The customized memory contents and user-adjusted settings will still be retained in memory. When you install a fresh set of batteries, the memory contents are protected always, because the RC2000MKII use the non-volatile memory. Alkaline (and the newer lithium) types are recommended for longest battery life.

As you become more familiar over time with how you are using the RC2000MKII in your A/V system, you may wish to consider reducing the lighting time(s) if possible, as this can help to extend the battery life.

**Adjustment of the LCD contrast**

• The LCD contrast can be adjusted as follows;

Set SETUP mode to the RC2000MKII by pressing the MEMO and OK button. Press the VOL+ to increase the LCD contrast set. Press the VOL - to decrease the LCD contrast. Press the OK button to end this setting and return the original operation.

## Direct Command Functions Listing

Within the RC2000MKII LCD window, each of the 8 Direct Function buttons has 4 character label attached for pre-programmed remote commands. These commands can be used with various Marantz A/V components, or other components using the Philips RC-5 remote control language.

You can easily replace the factory-supplied remote command codes with different codes from other brands of equipment. Most functions that are supplied apply to a wide variety of equipment from many companies. The following list shows the remote code assignments for the direct function buttons, for each of the 10 main function selector buttons, as supplied from the factory. You can add or replace function commands, including re-naming them if you wish, in order to customize the RC2000MKII for your own particular selection of A/V components.

| | | | |
|---|---|---|---|
| AMP | 1 MODE-1 | 1 AC-3 | selects Dolby Digital (AC-3) decoding |
| | | 2 RF | selects Dolby Digital RF input |
| | | 3 OPT | selects optical digital input |
| | | 4 COAX | selects coaxial digital input |
| | | 5 P/L | Dolby Pro Logic decoding |
| | | 6 6-CH | activates 6 channel setup |
| | | 7 2-CH | Stereo (no surround decoding) |
| | | 8 NITE | selects NIGHT mode |
| | 2 MODE-2 | 1 AC-3 | selects Dolby Digital (AC-3) decoding |
| | | 2 P/L | Dolby Pro Logic decoding |
| | | 3 3-ST | Dolby 3-stereo decoding |
| | | 4 MOV | Movie surround sound |
| | | 5 THX | THX Cinema decoding |
| | | 6 MTRX | Matrix surround sound |
| | | 7 HALL | Hall surround sound |
| | | 8 2-CH | Stereo (no surround decoding) |
| | 3 SETUP | 1 TEST | activates test tone |
| | | 2 DLAY | increases delay time |
| | | 3 R-EQ | activates RE-EQ function |
| | | 4 ATT | activates ATT function |
| | | 5 CH+ | next channel (up) |
| | | 6 LVL+ | increases channel level volume |
| | | 7 LVL- | decreases channel level volume |
| | | 8 MLTI | activates multi-room mode |
| | 4 PROCESSOR | 1 RF | selects Dolby Digital RF input |
| | | 2 OPT | selects optical digital input |
| | | 3 COAX | selects coaxial digital input |
| | | 4 BYP | bypasses Dolby Digital decoding |
| | | 5 VOL+ | increases Dolby Digital volume |
| | | 6 VOL- | decreases Dolby Digital volume |
| | | 7 SLEP | activates amplifier's sleep timer |
| | | 8 6-CH | activates 6 channel setup |
| TUNER | 1 BAND | 1 FM | FM band |
| | | 2 AM | AM/MW band |
| | | 3 LW | long wave band |
| | | 4 BAND | selects radio band |
| | | 5 MODE | mono/stereo/muting mode selector |
| | | 6 TIME | time display |
| | | 7 F/P | frequency or preset channel display |
| | | 8 SCAN | programmed preset channel scan |
| | 2 REC | 1 TP-1 | commands for Tape 1 control (NO output) |
| | | 2 REC | record |

| | | | |
|---|---|---|---|
| TUNER | 2 REC | 3 PAUS | pause |
| | | 4 STOP | stop |
| | | 5 TP-2 | commands for Tape 2 control (NO output) |
| | | 6 REC | record |
| | | 7 PAUS | pause |
| | | 8 STOP | stop |
| | 2 RDS (for REST only) | 1 STM | selects station mode |
| | | 2 AF | selects AF function |
| | | 3 PTY | selects PTY function |
| | | 4 DISP | selects display function |
| | | 5 | |
| | | 6 | |
| | | 7 | |
| | | 8 DWR | selects DSR wave range |
| CD | 1 MODE | 1 CD+ | CD changer next disc |
| | | 2 CD - | CD changer previous disc |
| | | 3 FTS | favorite track selection |
| | | 4 RNDM | random (shuffle) play function |
| | | 5 TRAY | tray open/close |
| | | 6 TIME | time display elapsed/remain/total |
| | | 7 REPT | repeat function |
| | | 8 AMS | automatic music scan |
| | 2 CHANGER1 | 1 CD1 | selects Disc 1 |
| | | 2 CD2 | selects Disc 2 |
| | | 3 CD3 | selects Disc 3 |
| | | 4 CD4 | selects Disc 4 |
| | | 5 CD5 | selects Disc 5 |
| | | 6 EDIT | tape edit function |
| | | 7 RCL | recall track programming |
| | | 8 CNCL | cancel track programming |
| | 3 CHANGER2 | 1 UNIT | selects unit No. |
| | | 2 DISC | selects disc No. |
| | | 3 TR | selects track No. |
| | | 4 CATG | selects category |
| | | 5 MODE | selects mode |
| | | 6 TITL | selects function title mode |
| | | 7 T-S | selects title search |
| | | 8 ENT | selects enter |
| | 4 REC | 1 TAPE | commands for Tape control (no output) |
| | | 2 REC | record |
| | | 3 PAUS | pause |
| | | 4 STOP | stop |
| | | 5 MD | commands for MD control (no output) |
| | | 6 REC | record |
| | | 7 PAUS | pause |
| | | 8 STOP | stop |
| TAPE | 1 MODE | 1 TP-A | selects tape deck A |
| | | 2 TP-B | selects tape deck B |
| | | 3 DIR | auto-reverse direction |
| | | 4 TIME | time display |
| | | 5 TRAY | tray open/close |
| | | 6 AMS | automatic music scan |
| | | 7 REC | record |
| | | 8 PAUS | pause |

| | | | |
|---|---|---|---|
| DVD | 1 MODE1 | 1 ANGL | selects angle |
| | | 2 TITL | selects title menu |
| | | 3 SUBT | selects sub title |
| | | 4 MENU | selects main menu |
| | | 5 TRAY | tray open/close |
| | | 6 SUND | selects languages |
| | | 7 SET | selects setup menu |
| | | 8 RTN | return to menu |
| | 2 MODE2 | 1 SLOW | slow forward |
| | | 2 LPLY | last play function |
| | | 3 RNDM | shuffle paly function |
| | | 4 RPT | repeat modes |
| | | 5 A/B | repeat A to B |
| | | 6 +10 | digit entry +10 |
| | | 7 T/C | title and chapter |
| | | 8 ZOOM | zoom mode on/off |
| | 3 KARAOKE | 1 ONOF | karaoke on/off |
| | | 2 ONCE | once play again |
| | | 3 MELO | melody play |
| | | 4 VOCL | vocal support play |
| | | 5 MODE | karaoke modes |
| | | 6 3-D | surround processor on/off |
| | | 7 VSLF | very slow forward |
| | | 8 VRLR | very slow reverse |
| | 4 REC | 1 VCR1 | selects VCR1 control (no output) |
| | | 2 REC | record |
| | | 3 PAUS | pause |
| | | 4 STOP | stop |
| | | 5 MD | selects MD control (no output) |
| | | 6 REC | record |
| | | 7 PAUS | pause |
| | | 8 STOP | stop |
| LD | 1 MODE | 1 SD-A | side A |
| | | 2 SD-B | side B |
| | | 3 DISP | display on/off |
| | | 4 AMS | automatic music scan |
| | | 5 RPTA | Repeat A start point |
| | | 6 RPTB | Repeat B stop point |
| | | 7 CP/F | selects chapter or flame |
| | | 8 EDIT | activate tape edit function |
| | 2 LD | 1 MSP+ | CAV multi-speed increase |
| | | 2 MSP- | CAV multi-speed decrease |
| | | 3 FRM+ | frame advance |
| | | 4 FRM- | frame reverse |
| | | 5 MS-F | CAV multi-speed forward direction |
| | | 6 MS-R | CAV multi-speed reverse direction |
| | | 7 AUD | Stereo, left only, right only channel |
| | | 8 DACX | digital audio, analog audio, CX NR |
| | 3 REC | 1 VCR1 | commands for VCR 1 control (NO output) |
| | | 2 REC | record |
| | | 3 PAUS | pause |
| | | 4 STOP | stop |
| | | 5 VCR2 | commands for VCR 2 control (NO output) |

16

| | | | |
|---|---|---|---|
| LD | 3 REC | 6 REC | record |
| | | 7 PAUS | pause |
| | | 8 STOP | stop |
| | 4 VCD (for REST only) | 1 PBC | selects play back control |
| | | 2 KARA | selects karaoke |
| | | 3 IDX+ | index up |
| | | 4 IDX- | index down |
| | | 5 SEL | play or select audio |
| | | 6 RTN | stop or select return |
| | | 7 NEXT | track next |
| | | 8 PREV | track previous |
| TV | 1 INPUT | 1 RGB | select RGB/PC |
| | | 2 VIDEO | selects VIDEO |
| | | 3 | |
| | | 4 | |
| | | 5 DVD | selects DVD/HD |
| | | 6 | |
| | | 7 | |
| | | 8 | |
| | 2 MODE | 1 ZOM+ | enlarge the picture |
| | | 2 ZOM- | reduce the picture |
| | | 3 | |
| | | 4 | |
| | | 5 WIDE | select screen size |
| | | 6 | |
| | | 7 | |
| | | 8 | |
| | 3 MENU | 1 ON | display the main menu |
| | | 2 | |
| | | 3 | |
| | | 4 | |
| | | 5 OFF | exit |
| | | 6 | |
| | | 7 TIME | off timer |
| | | 8 | |
| | 4 POINTER | 1 ON | on/off the pointer on display |
| | | 2 | |
| | | 3 | |
| | | 4 | |
| | | 5 | |
| | | 6 | |
| | | 7 | |
| | | 8 | |
| VCR | 1 MODE | 1 CH+ | next channel (up) |
| | | 2 CH- | previous channel (down) |
| | | 3 SLCT | select TV or VCR |
| | | 4 AUD | audio track selector |
| | | 5 OTR | one touch recording |
| | | 6 REC | record |
| | | 7 PAUS | pause |
| | | 8 STOP | stop |
| | 2 PLAY MODE | 1 2XPL | twice normal playback speed |
| | | 2 SLOW | slower than normal playback speed |
| | | 3 STIL | still frame |
| | | 4 | |
| | | 5 SKIP | skip to next program marker |
| | | 6 VIS+ | VHS index search next |
| | | 7 VIS- | VHS index search previous |
| | | 8 | |

| | | | |
|---|---|---|---|
| | 3 MENU | 1 MENU | activate menu |
| | | 2 STAT | show current status |
| | | 3 CLR | clear programming |
| VCR | 3 MENU | 4 GOTO | go to next item |
| | | 5 PLUS | video PLUS |
| | | 6 | |
| | | 7 | |
| | | 8 | |
| DSS (for USA only) | 1 DSS | 1 DISP | brings up on screen channel marker |
| | | 2 PREV | goes to previously selected channel |
| | | 3 CH+ | next channel |
| | | 4 CH- | previous channel |
| | | 5 FAV | favorite users and channel lists |
| | | 6 ALT | alternate audio channel, languages |
| | | 7 FTCH | brings up on screen channel logos |
| | | 8 ANT | selects broadcast or cable antenna |
| | 2 MODE | 1 CH+ | next channel |
| | | 2 CH- | previous channel |
| | | 3 SLCT | select TV or VCR |
| | | 4 AUD | audio track selector |
| | | 5 OTR | one touch recording |
| | | 6 REC | record |
| | | 7 PAUS | pause |
| | | 8 STOP | stop |
| | 3 PLAY MODE | 1 2XPL | two times play speed |
| | | 2 SLOW | slow speed play |
| | | 3 STIL | still frame |
| | | 4 | |
| | | 5 SKIP | skip to next program |
| | | 6 VIS+ | VHS index search next |
| | | 7 VIS- | VHS index search previous |
| | | 8 | |
| | 4 MENU | 1 MENU | activate menu |
| | | 2 STAT | show current status |
| | | 3 CLR | clear programming |
| | | 4 GOTO | go to next item |
| | | 5 | |
| | | 6 | |
| | | 7 | |
| | | 8 | |
| AUX | 1 REC | 1 VCR1 | commands for VCR 1 control (NO output) |
| | | 2 REC | record |
| | | 3 PAUS | pause |
| | | 4 STOP | stop |
| | | 5 VCR2 | commands for VCR 2 control (NO output) |
| | | 6 REC | record |
| | | 7 PAUS | pause |
| | | 8 STOP | stop |
| | 2 VCD/PHI 1 (for REST only) | 1 CD+ | selects disc up |
| | | 2 CD- | selects disc down |
| | | 3 OSD | OSD on/off |
| | | 4 SCAN | selects time search |
| | | 5 A/B | repeat A to B |
| | | 6 SLOW | slow forward |
| | | 7 | |
| | | 8 | |

17

| | | | | |
|---|---|---|---|---|
| AUX | 3 VCD/PHI 2<br>(for<br>REST<br>only) | 1 PBC<br>2 KARA<br>3 IND+<br>4 IND-<br>5 SEL<br>6 RTN<br>7 NEXT<br>8 PREV | selects play back control<br>selects karaoke program<br>selects video index up<br>selects video index down<br>selects in PBC<br>returns in PBC<br>next<br>privious | |
| | 4 VCD/PHI 3<br>(for<br>REST<br>only) | 1 CD+<br>2 SHUT<br>3 OVEW<br>4 RESM<br>5 CHAN<br>6 FADR<br>7<br>8 | selects disc up<br>selects shutter function<br>selects digest function<br>selects last paly function<br>selects channel<br>selects MPX/vocal fader | |
| MD | 1 MODE 1 | 1 MD-A<br>2 MD-B<br>3 RPT<br>4 DISP<br>5 EJCT<br>6 AMS<br>7 RNDM<br>8 LP | select MD A<br>select MD B<br>select repeat modes<br>select display modes<br>eject<br>automatic music scan<br>randam diaplay<br>selects SP/LP mode | |
| | 2 EDIT | 1 EDIT<br>2 CHAR<br>3 DEL<br>4 ENT<br>5 AMRK<br>6 SYNC<br>7 PROG<br>8 | selects edit mode<br>selects character mode<br>selects delete<br>selects enter<br>selects auto marker<br>syncro REC<br>selects program mode | |
| | 3 REC | 1 MD<br>2 RECP<br>3 PAUS<br>4 STOP<br>5 TAPE<br>6 REC<br>7 PAUS<br>8 STOP | command MD (no output)<br>REC-pause<br>pause<br>stop<br>command tape (no output)<br>record<br>pause<br>stop | |

**Receiving the remote control codes**

The RC2000MKII can learn most of the remote control codes from various equipment, it learns the full word length of the code it is receiving.

Due to the sensitivity of the receiving LED the RC2000MKII may also "learn" noise from fluorescent lights, etc. which can quickly fill up the memory of the RC2000MKII.

In order to maximize the memory capacity of the RC2000MKII please pay close attention to the following:

**(1) Aim the transmitting remote control at a direct line of the sight to the RC2000MK**II **remote receiver eye.**

**(2) Keep 2 inches between transmitting remote and the RC2000MK**II **receiving eye.**



18
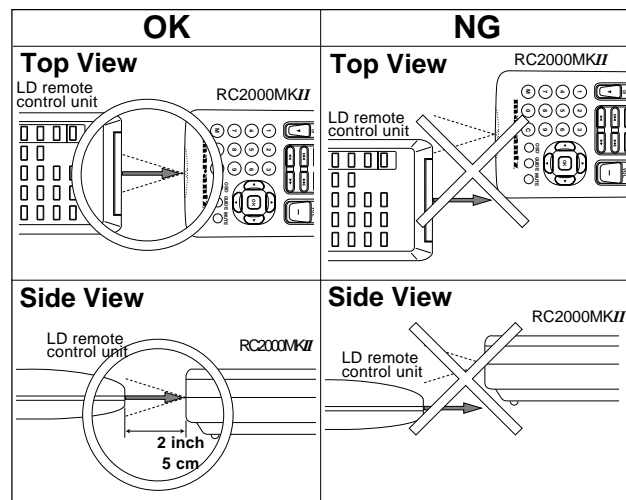
## Battery Installation and Replacement

Insert the 4 "AA" batteries, making sure to set them in with the proper polarity.

1. Press and pull.
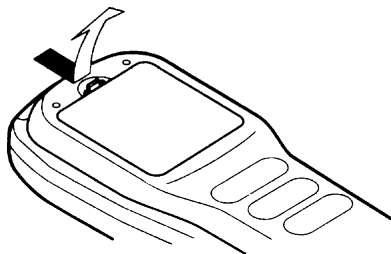


2. Load the batteries in the direction indicated by the "+" and "–" marks in the case.
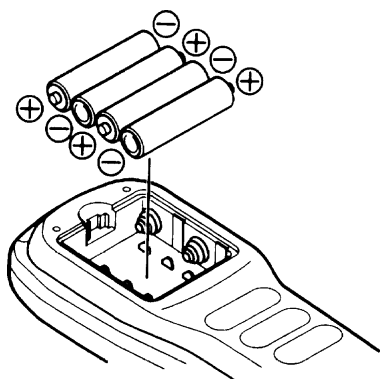


3. Put the lid back on.
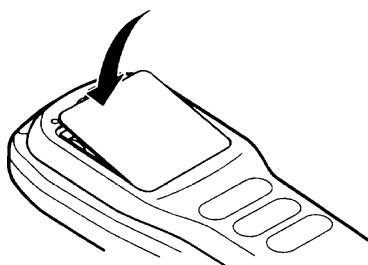


## LCD Remote Controller Notes

* Keep the back light button turned off except when using the LCD remote controller in a dark room. Leaving the back light on wears down the batteries faster.

## Handling the LCD remote controller

* Do not subject to strong shocks.
* Do not subject to moisture.
  If moisture gets on the unit, wipe it off immediately.
* Keep away from heat.
* Do not scratch or tap on the LCD remote controller's liquid crystal display with sharp objects (pens, compasses, etc.), and do not subject it to strong shocks.

## Operating Range

* Use the LCD remote controller within a distance of about 7 meters from the front of the monitor's remote control sensor and at a horizontal angle of within 30°.
* The remote control operation may not function if the monitor's remote control sensor is exposed to direct sunlight or strong artificial light, or if there is an obstacle between the sensor and the remote control unit.
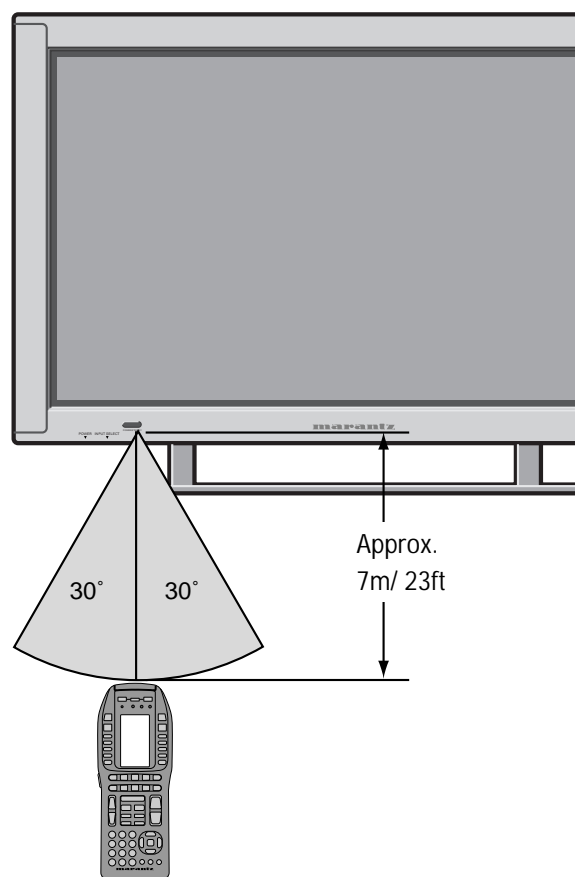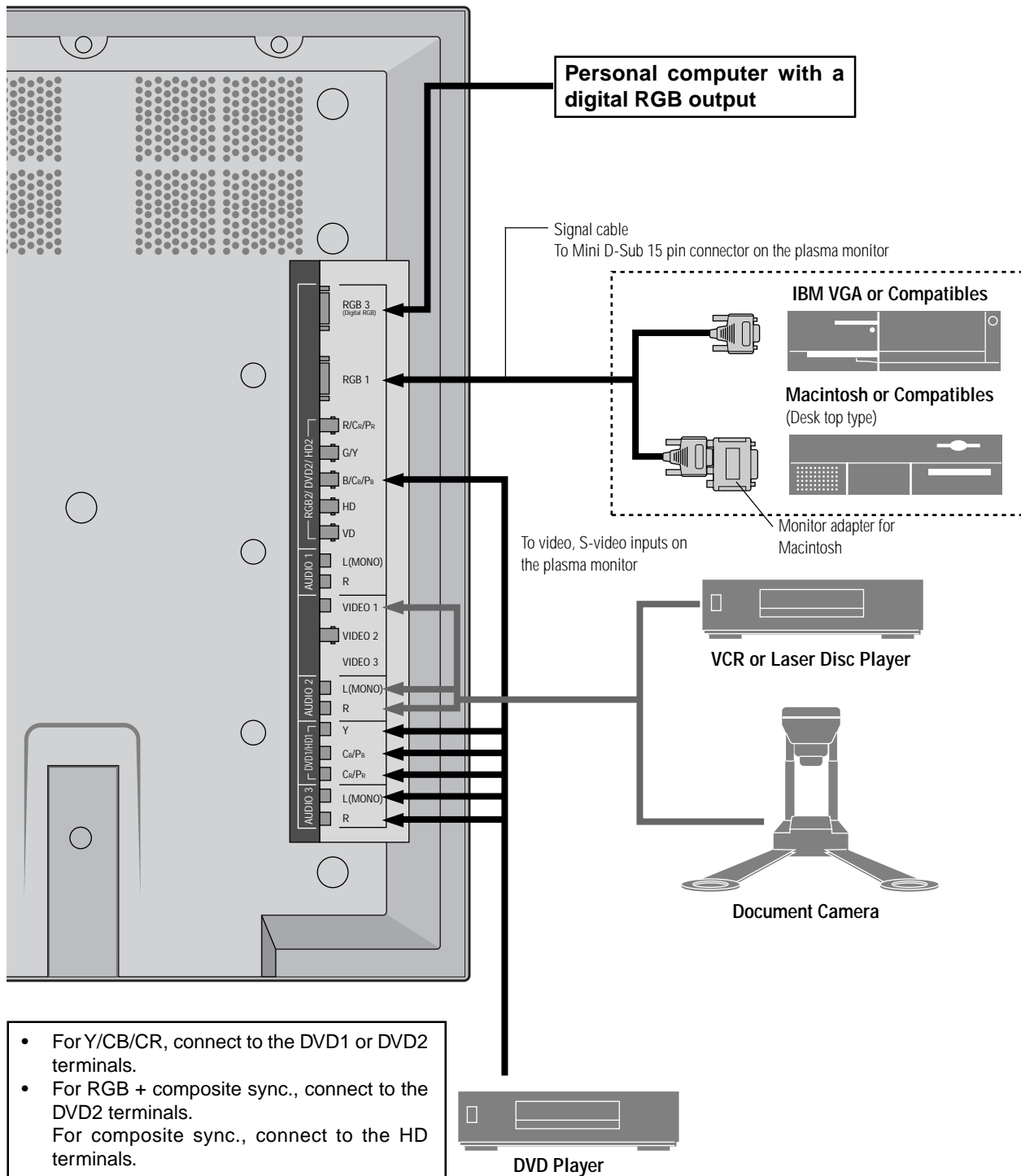


Approx.
7m/ 23ft

30˚   30˚

LCD remote controller

19

# Installation



**Personal computer with a digital RGB output**

Signal cable
To Mini D-Sub 15 pin connector on the plasma monitor

**IBM VGA or Compatibles**

**Macintosh or Compatibles**
(Desk top type)

Monitor adapter for Macintosh

To video, S-video inputs on the plasma monitor

**VCR or Laser Disc Player**

**Document Camera**

- For Y/CB/CR, connect to the DVD1 or DVD2 terminals.
- For RGB + composite sync., connect to the DVD2 terminals.
  For composite sync., connect to the HD terminals.

**DVD Player**

20

## Connecting Your PC Or Macintosh Computer

Connecting your PC or Macintosh computer to your plasma monitor will enable you to display your computer's screen image for an impressive presentation. The plasma monitor supports the signals described on page 58.

To connect to a PC, Macintosh or compatible graphics adapter, simply:

1. Turn off the power to your plasma monitor and computer.

2. If your PC does not support XGA/SVGA/VGA you will need to install an XGA/SVGA/VGA graphics board. Consult your computer's owner's manual for your XGA/SVGA/VGA configuration. If you need to install a new board, see the manual that comes with your new graphics board for installation instructions.

3. The plasma monitor provides signal compatibility up to VESA 1280×1024@60Hz (SXGA). However, it is not recommended to use this resolution due to image readability on the monitors 853×480 native pixel resolution panel.

4. Use the signal cable that's supplied to connect your PC or Macintosh computer to the plasma monitor. For Macintosh, use the supplied monitor adapter to connect to your computer's video port.

5. Turn on the plasma monitor and the computer.

6. If the plasma monitor goes blank after a period of inactivity, it may be caused by a screen saver installed on the computer you've connected to the plasma monitor.

When using a Macintosh with the plasma monitor, the following four display standards are supported using the included Macintosh adapter :

> 13" fixed mode
>
> 16" fixed mode
>
> 19" fixed mode
>
> 21" fixed mode

The 13" fixed mode is recommended for the plasma monitor.

## Connections with Equipment that has a Digital Interface

Connections can be made with equipment that is equipped with a digital interface compliant with the DVI (Digital Visual Interface) standard.

* Use a DVI 29-pin signal cable (available separately) and the ferrite cores (supplied) when making connections to the RGB3 IN (DVI) connector of the main unit.
Note that the RGB3 IN(DVI) terminal does not support analog RGB input source.

*Note:*
*1. Input TMDS signals conforming to DVI standards.*
*The TMDS input corresponds to 1 link.*
*2. To maintain display quality, use a cable with a quality prescribed by DVI standards that is within 5 meters in length.*

## Connecting Your Document Camera

You can connect your plasma monitor to a document camera. To do so, simply:

1. Turn off the power to your plasma monitor and document camera.

2. Use a standard video cable to connect your document camera to the Video input on your plasma monitor.

3. Turn on the plasma monitor and the document camera.

*Note: Refer to your document camera's owner's manual for more information about your camera's video output requirements.*

## Connecting Your VCR Or Laser Disc Player

Use common RCA cables (not provided) to connect your VCR or laser disc player to your plasma monitor. To make these connections, simply:

1. Turn off the power to your plasma monitor and VCR or laser disc player.

2. Connect one end of your RCA cable to the video output connector on the back of your VCR or laser disc player, connect the other end to the Video input on your plasma monitor. Use standard RCA audio patch cords to connect the audio from your VCR or laser disc player to your plasma monitor (if your VCR or laser disc player has this capability). Be careful to keep your right and left channel connections correct for stereo sound.

3. Turn on the plasma monitor and the VCR or laser disc player.

*Note: Refer to your VCR or laser disc player owner's manual for more information about your equipment's video output requirements.*

## Connecting Your DVD Player

You can connect your plasma monitor to a DVD player. To do so, simply:

1. Turn off the power to your plasma monitor and DVD player.

2. Use a standard video cable to connect your DVD player to the Y, Cb, and Cr inputs on your plasma monitor.
Or use the DVD-player's S-Video output. Use a standard S-Video cable to connect to the S-Video input on the plasma monitor.

3. Turn on the plasma monitor and the DVD player.

21

## External Speaker  Connections
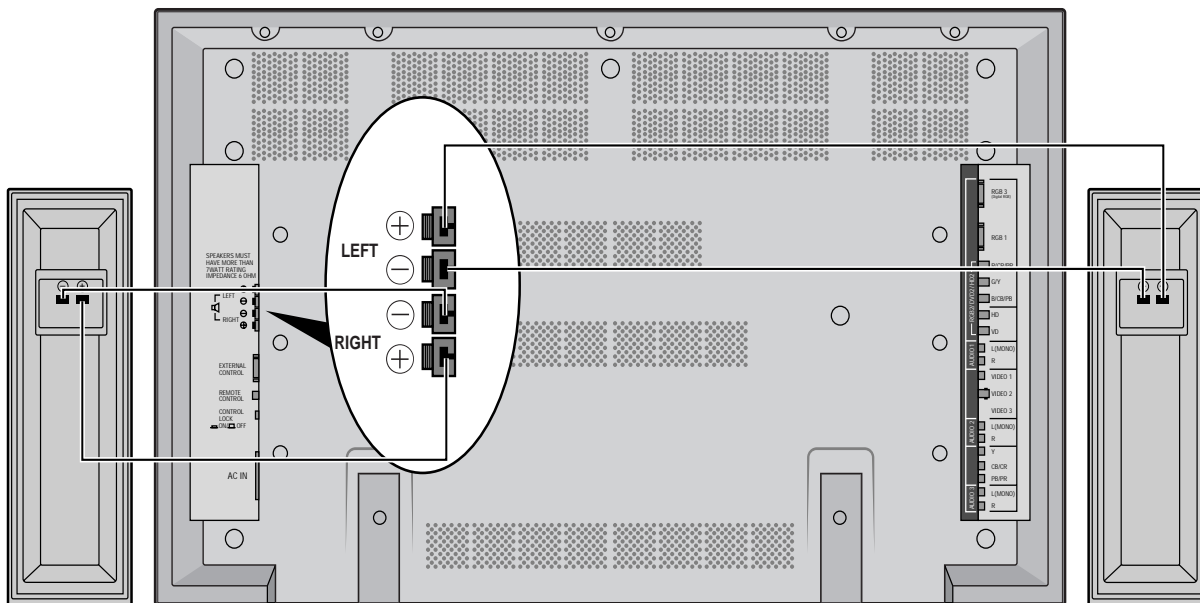


External speakers may be connected to the plasma monitor to reproduce sound from VIDEO, DVD or RGB signal sources.

External speakers may be connected directly to the SPEAK-ERS terminals or indirectly by connecting a stereo system amplifier to the audio outputs.

*CAUTION:* *Unplug the plasma monitor and all connected components before connecting external speakers. Use only speakers with 6-ohm impedance and a power output rating of 7 watts or more.*

To connect external speakers directly to the plasma monitor:
1. Strip the ends of the speaker wires.
2. Press down the tabs below the SPEAKERS terminals, insert the speaker wire and release the tab to secure the speaker wire connection:
   [a]  Connect the right speaker (located at right side of the monitor when      viewed from the front) positive (+) wire to RIGHT +.
   [b]  Connect the right speaker negative (–) wire to RIGHT -.
   [c]  Connect the left speaker negative (–) wire to LEFT–.
   [d]  Connect the left speaker positive wire (+) to LEFT+.

22

## Connecting Your PC Or Macintosh Computer

Connecting your PC or Macintosh computer to your Plasma monitor will enable you to display your computer's screen image for an impressive presentation. The Plasma monitor supports the signals described on page 50.

To connect to a PC, Macintosh or compatible graphics adapter, simply:

1. Turn off the power to your Plasma monitor and computer.

2. If your PC does not support XGA/SVGA/VGA you will need to install an XGA/SVGA/VGA graphics board. Consult your computer's owner's manual for your SXGA/XGA/ SVGA/VGA configuration. If you need to install a new board, see the manual that comes with your new graphics board for installation instructions.

3. The Plasma monitor provides signal compatibility with VESA 1280×1024@60Hz (SXGA). However, it is not recommended to use this resolution due to image readability on the monitors 853×480 native pixel resolution panel.

4. Use the signal cable that's supplied to connect your PC or Macintosh computer to the Plasma monitor. For Macintosh, use the supplied monitor adapter to connect to your computer's video port.

5. Turn on the Plasma monitor and the computer.

6. If the Plasma monitor goes blank after a period of inactivity, it may be caused by a screen saver installed on the computer you've connected to the Plasma monitor.

When using a Macintosh with the Plasma monitor, the following three display standards are supported using the included Macintosh adapter :

> 13" fixed mode
>
> 16" fixed mode
>
> 19" fixed mode

The 13" fixed mode is recommended for the Plasma monitor.

## Connecting Your Document Camera

You can connect your Plasma monitor to a document camera. To do so, simply:

1. Turn off the power to your Plasma monitor and document camera.

2. Use a standard video cable to connect your document camera to the Video input on your Plasma monitor.

3. Turn on the Plasma monitor and the document camera.

*Note: Refer to your document camera's owner's manual for more information about your camera's video output requirements.*

## Connecting Your VCR Or Laser Disc Player

Use common RCA cables (not provided) to connect your VCR or laser disc player to your Plasma monitor. To make these connections, simply:

1. Turn off the power to your Plasma monitor and VCR or laser disc player.

2. Connect one end of your RCA cable to the video output connector on the back of your VCR or laser disc player, connect the other end to the Video input on your Plasma monitor. Use standard RCA audio patch cords to connect the audio from your VCR or laser disc player to your Plasma monitor (if your VCR or laser disc player has this capability). Be careful to keep your right and left channel connections correct for stereo sound.

3. Turn on the Plasma monitor and the VCR or laser disc player.

*Note: Refer to your VCR or laser disc player owner's manual for more information about your equipment's video output requirements.*

## Connecting Your DVD Player

You can connect your Plasma monitor to a DVD player. To do so, simply:

1. Turn off the power to your Plasma monitor and DVD player.

2. Use a standard video cable to connect your DVD player to the Y, Cb, and Cr inputs on your Plasma monitor. Or use the DVD-player's S-Video output. Use a standard S-Video cable to connect to the S-Video input on the Plasma monitor.

3. Turn on the Plasma monitor and the DVD player.

23

## Pin Assignments and Signal Levels for 15 pin RGB (Analog)
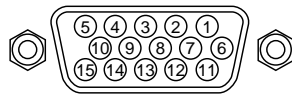
| Pin No. | Signal (Analog) |
|---|---|
| 1 | Red |
| 2 | Green or sync-on-green |
| 3 | Blue |
| 4 | No connection |
| 5 | Ground |
| 6 | Red ground |
| 7 | Green ground |
| 8 | Blue ground |
| 9 | No connection |
| 10 | Sync signal ground |
| 11 | No connection |
| 12 | Bi-directional DATA (SDA) |
| 13 | Horizontal sync |
| 14 | Vertical sync |
| 15 | SCL |

## Pin Configuration and Signal of the RGB 3 IN Connector (DVI Connector)

The unit is equipped with a type of connector commonly
used for both analog and digital.
(Functionally, this cannot be used for analog input.)
(TMDS can be used for one link only)

**RGB 3**
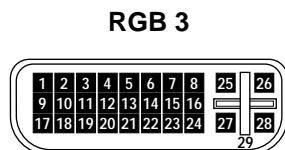
| Pin No. | Signal (Digital) |
|---|---|
| 1 | T.M.D.S Data 2 - |
| 2 | T.M.D.S Data 2 + |
| 3 | T.M.D.S Data 2 Shield |
| 4 | No connection |
| 5 | No connection |
| 6 | DDC Clock |
| 7 | DDC Data |
| 8 | No connection |
| 9 | T.M.D.S Data 1 - |
| 10 | T.M.D.S Data 1 + |
| 11 | T.M.D.S Data 1 Shield |
| 12 | No connection |
| 13 | No connection |
| 14 | +5V Power |
| 15 | Ground |
| 16 | Hot Plug Detect |
| 17 | T.M.D.S Data 0 - |
| 18 | T.M.D.S Data 0 + |
| 19 | T.M.D.S Data 0 Shield |
| 20 | No connection |
| 21 | No connection |
| 22 | T.M.D.S Clock Shield |
| 23 | T.M.D.S Clock + |
| 24 | T.M.D.S Clock - |
| 25 | No connection |
| 26 | No connection |
| 27 | No connection |
| 28 | No connection |
| 29 | No connection |

24

# Basic Operations

## POWER

**To turn the unit ON and OFF:**

1. Plug the power cord into an active AC power outlet.

2. Press the POWER ON button (on the remote controller) to turn on.

   The monitor's POWER/STANDBY indicator will light up(green) when the unit is on.

3. Press the POWER OFF button (on the remote controller or the unit) to turn off.

   The monitor's POWER/STANDBY indicator turns red and the standby mode is set (only when turning off the unit with the remote control).

## VOLUME

**To adjust the volume:**

1. Press and hold the VOLUME ▲ button (on the remote controller or the unit) to increase to the desired level.

2. Press and hold the VOLUME ▼ button (on the remote controller or the unit) to decrease to the desired level.

## MUTE

**To cancel the sound:**

Press the MUTE button on the remote controller to cancel sound; press again to restore.

## DISPLAY

**To check the settings:**

1. The screen changes each time the OSD button is pressed.

2. If the button is not pressed for approximately three seconds, the menu turns off.

## DIGITAL ZOOM

Digital zoom specifies the picture position and enlarges the picture.

1. Press the 4 -D1(ON) button to display the pointer. ( )

   **To change the size of the picture:**

   Press the 2 -D1(ZOM+) button and enlarge the picture.
   The pointer will change to resemble a magnifying glass. ( )
   A press of the 2 -D2(ZOM-) button will reduce the picture and return it to its original size.

   **To change the picture position:**

   Select the position with the ▲▼◀▶ buttons.

2. Press the 4 -D1(ON) button to delete the pointer.

## OFF TIMER

**To set the off timer:**

The off timer can be set to turn the power off after 30, 60, 90 or 120 minutes.

1. Press the ③-D7(TIME) button to start the timer at 30 minutes.

2. Press the ③-D7(TIME) button to the desired time.

3. The timer starts when the menu turns off.

⌐→ **30 → 60 → 90 → 120 → 0** ─┐

🕐 **OFF TIMER30**

**To check the remaining time:**

1. Once the off timer has been set, press the ③-D7(TIME) button once.

2. The remaining time is displayed, then turns off after a few seconds.

3. When five minutes remain the remaining time appears until it reaches zero.

🕐 **OFF TIMER28**

**Canceling the off timer**

1. Press the ③-D7(TIME) button twice in a row.

2. The off timer is canceled.

🕐 **OFF TIMER0**

**Note:**

*After the power is turned off with the off timer ...*
*A slight current is still supplied to the monitor. When you are leaving the room or do not plan to use the system for a long period of time, turn off the power of the monitor.*

26

# WIDE Operations

## Watching with a wide screen (manual)

With this function, you can select one of four screen sizes.

### When watching videos or digital video discs

1. Press the ❷-D5(WIDE) button on the remote controller.

2. *Within 3 seconds ...*

   Press the ❷-D5(WIDE) button again.
   The screen size switches as follows:

   → **ZOOM** → **NORMAL** → **FULL** → **STADIUM** ─

ZOOM size screen
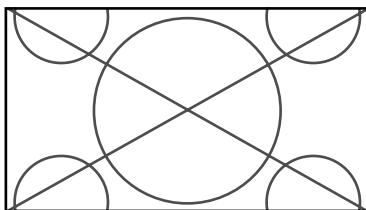
The picture is expanded in the horizontal and vertical direction, maintaining the original proportions.
* Use this for theater size (wide) movies, etc.

NORMAL size screen (4:3)
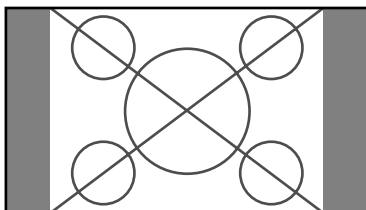
The normal size screen is displayed.
* The picture has the same size as video pictures with a 4 : 3 aspect ratio.

FULL size screen
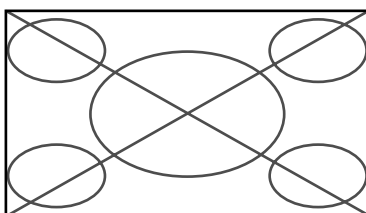
The image is expanded in the horizontal direction.
* Images compressed in the horizontal direction ("squeezed images") are expanded in the horizontal direction and displayed on the entire screen. (Normal images are expanded in the horizontal direction.)

STADIUM size screen
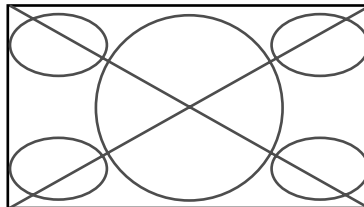
The picture is expanded in the horizontal and vertical directions at different ratios.
* Use this for watching normal video programs (4:3) with a wide screen.

### When watching high definition video source

1. Press the "WIDE" button on the remote controller.

FULL size screen (16 : 9)
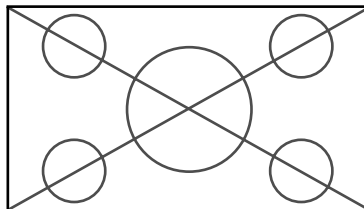
The full size screen is displayed.
* The picture has the same size as video pictures (16 : 9).

27

## Watching computer images with a wide screen

Switch to the wide screen mode to expand the 4 : 3 image to fill the entire screen.

1. Press the $\boxed{2}$ -D5(WIDE) button on the remote controller.

2. *Within 3 seconds ...*

   Press the $\boxed{2}$ -D5(WIDE) button again.
   The screen size switches as follows:

   $\rightarrow$ **NORMAL** $\rightarrow$ **FULL** $\rightharpoondown$
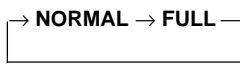
NORMAL size screen (4:3 or SXGA 5:4)
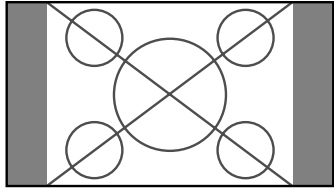


The picture has the same size as the normal computer image.

FULL size screen
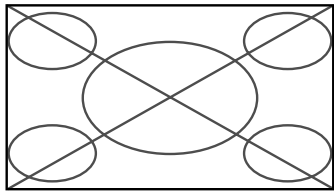


The image is expanded in the horizontal direction.

When using a graphic accelerator board that is capable of displaying 848×480.

FULL size screen
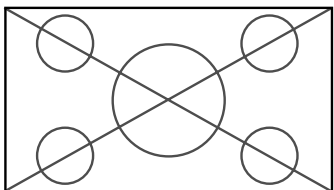


### *Information*

#### ■ Supported resolution

- See page 58 for details on the display output of the various VESA signal standards supported by the monitor.
- When 852 dot×480 line wide VGA (*) signals with a vertical frequency of 60 Hz and horizontal frequency of 31.72 kHz are input, select "WIDE" for the "RGB SELECT" setting. Since selecting an 848×480 signal automatically displays the image in correct size, it is not necessary to change the RGB SELECT setting.

\* "IBM PC/AT" and "VGA" are registered trademarks of IBM, Inc. of the United States.

28

# OSM(On Screen Menu) Controls

## Menu Operations

The OSM window is displayed with respect to the screen as shown on the diagram.

* Depending on the screen's mode, the OSM may be displayed slightly differently.
  In the explanation, the OSM section is shown close up.
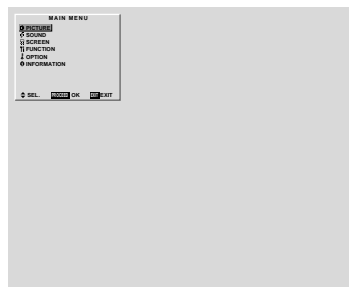
The following describes how to use the menus and the selected items.

1. Press the 3 -D1(ON) button on the remote controller to display the MAIN MENU.

```
              MAIN MENU
    ❶ PICTURE
    ♬ SOUND
    ♒ SCREEN
    ♈ FUNCTION
    ⚡ OPTION
    ❶ INFORMATION


    ⬍ SEL.    PROCEED OK    EXIT EXIT
```
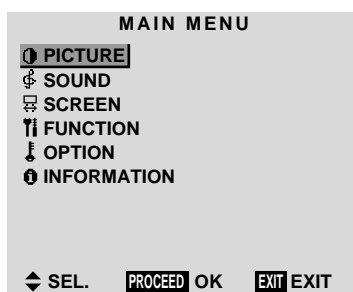
2. Press the cursor buttons ▲ ▼ on the remote controller to highlight the menu you wish to enter.

3. Press the 3 -D1(ON) button on the remote controller to select a submenu or item.

```
                PICTURE
    ❶ CONTRAST      ⊖ [========] ⊕
    ☼ BRIGHTNESS    ⊖ [====    ] ⊕
    ◉ SHARPNESS     ⊖ [====    ] ⊕
    ◉ COLOR         ⊖ [======  ] ⊕
    ◉ TINT          ⓡ [====    ] ⓖ
      PICTURE MODE  :  MEMORY
    ◨ COLOR TEMP.   :  2
    ▦ NR            :  NR-2

    ⬍ SEL.   ⬌ ADJ.    EXIT RETURN
```
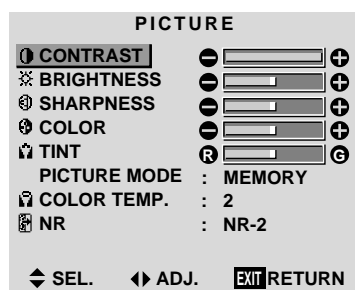
4. Adjust the level or change the setting of the selected item by using the cursor buttons ◄ ► on the remote controller.

5. The change is stored until you adjust it again.

6. Repeat steps 2 – 5 to adjust an additional item, or press the EXIT button on the remote controller to return to the main menu.

*Note: The main menu disappears by pressing the 3 -D5(OFF) button.*

29

| Main menu | Sub menu | Functions | Default | Reset |
|---|---|---|---|---|
| PICTURE | CONTRAST | Adjusts the contrast. | Max | ○ |
| | BRIGHTNESS | Adjusts the brightness. | Center | ○ |
| | SHARPNESS | Adjusts the sharpness. | Center | ○ |
| | COLOR | Adjusts the color. | Center | ○ |
| | TINT | Adjusts the tint. | Center | ○ |
| | PICTURE MODE | Sets the picture mode according to the VIDEO environment and image software. | MEMORY | ○ |
| | COLOR TEMP | Adjusts the color temperature and white balance. | 2 | ○ |
| | NR | Reduces noise visible in image. | NR-1 | ○ |

| Main menu | Sub menu | Functions | Default | Reset |
|---|---|---|---|---|
| SOUND | BASS | Sets the bass. | Center | ○ |
| | TREBLE | Sets the treble. | Center | ○ |
| | BALANCE | Sets the left/right balance. | Center | ○ |

| Main menu | Sub menu | Functions | Default | Reset |
|---|---|---|---|---|
| SCREEN | V-POSITION | Adjusts the vertical position | Center | ○ |
| | H-POSITION | Adjusts the horizontal position | Center | ○ |
| | V-HEIGHT | Adjusts the vertical size | Min | ○ |
| | H-WIDTH | Adjusts the horizontal size | Min | ○ |
| | AUTO PICTURE | Turn this on to have the monitor automatically adjust "FINE PICTURE" and "PICTURE ADJ" | OFF*1 | × |
| | FINE PICTURE | Adjusts for flickering on the computer image | Min*1 | ○ |
| | PICTURE ADJ. | Adjusts for striped patterns on the computer image | Center*1 | ○ |

| Main menu | Sub menu | Functions | Default | Reset |
|---|---|---|---|---|
| FUNCTION | OSM | Turns the on-screen display (screen mode, etc.) off (when set to "OFF"). When set to "ON", the on-screen display is displayed. | ON | ○ |
| | OSM ADJ. | Adjusts the vertical and horizontal positions of the menu display. | 1 | ○ |
| | POWER MGT | Sets the monitor for use as an energy-saving display when used with a computer. | OFF | ○ |
| | GRAY LEVEL | In case of 4 : 3, sets the luminance of both sides. | 3 | ○ |
| | PLE+INVERSE | Set the brightness level to the minimum in conjunction with the inverse function. | AUTO | ○ |
| | CINEMA MODE | Setting the picture to suit the movie. | AUTO | ○ |
| | RESET | Resets all the settings (PICTURE, SOUND, SCREEN, FUNCTION, etc.) to the factory default values. | – | – |

| Main menu | Sub menu | Functions | Default | Reset |
|---|---|---|---|---|
| OPTION | AUDIO INPUT | Setting the allocation of the audio connectors. | *2 | ○ |
| | BNC SELECT | Setting the BNC connectors. | RGB | ○ |
| | RGB SELECT | Sets the appropriate mode for the computer image. RGB (VGA signals), VIDEO (Moving picture), WIDE (WIDE VGA) DTV. | RGB | ○ |
| | HD SELECT | Sets the digital broadcasting (1080A,1080B) or the High Vision (1035I). | 1080B | × |
| | RGB3 ADJ | Adjusts the display position in the RGB3 input. | 1 | ○ |

| Main menu | Sub menu | Functions | Default | Reset |
|---|---|---|---|---|
| INFORMATION | FREQUENCY | Used to check the frequency and synchronizing polarities of the signal currently being inputted. | – | – |
| | LANGUAGE | Sets the language of the menus (Japanese, English, German, French, Swedish, Italian or Spanish). | English | × |
| | COLOR SYSTEM | Sets the VIDEO format (AUTO1, AUTO2, PAL, PAL-M, PAL-N, PAL60, SECAM, 4.43 NTSC or 3.58 NTSC). | AUTO1 | × |

*1 RGB/ PC only.
*2 AUDIO1: RGB1  AUDIO2: VIDEO1  AUDIO3: HD/DVD1

30

## Picture Settings Menu

**Adjusting the picture**
The contrast, brightness, sharpness, color and tint can be adjusted as desired.

Example: Adjusting the contrast

*Press the 3 -D1(ON) button on the remote controller to display the MAIN MENU on the screen, then...*

1.  Use the ▲ and ▼ buttons to select "PICTURE", then press the 3 -D1(ON) button.
    The "PICTURE" screen appears.

2.  Use the ▲ and ▼ buttons to select "CONTRAST".

```
                    PICTURE
    ◑ CONTRAST       ⊖▭▭▭▭▭▭⊕
    ☼ BRIGHTNESS     ⊖▭▭▭▭▭▭⊕
    ◉ SHARPNESS      ⊖▭▭▭▭▭▭⊕
    ◐ COLOR          ⊖▭▭▭▭▭▭⊕
    ♊ TINT           ⓡ▭▭▭▭▭▭Ⓖ
       PICTURE MODE   :  MEMORY
    🎨 COLOR TEMP.    :  2
    🎛 NR             :  NR-2

    ⬍ SEL.    ◀▶ ADJ.    EXIT RETURN
```
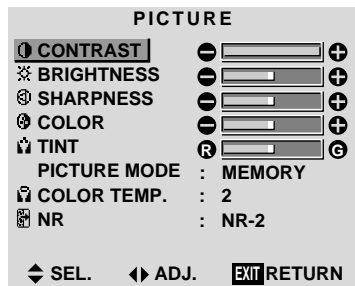
3.  Use the ◀ and ▶ buttons to adjust the picture.

```
    ◑ CONTRAST       ⊖▭▭▭▭▭▭⊕
```

*   If neither the ◀ or ▶ button is pressed within 5 seconds, the current setting is set and the previous screen reappears.

4.  Press the 3 -D1(ON) button.
    The contrast adjustment is completed.

```
                    PICTURE
    ◑ CONTRAST       ⊖▭▭▭▭▭▭⊕
    ☼ BRIGHTNESS     ⊖▭▭▭▭▭▭⊕
    ◉ SHARPNESS      ⊖▭▭▭▭▭▭⊕
    ◐ COLOR          ⊖▭▭▭▭▭▭⊕
    ♊ TINT           ⓡ▭▭▭▭▭▭Ⓖ
       PICTURE MODE   :  MEMORY
    🎨 COLOR TEMP.    :  2
    🎛 NR             :  NR-2

    ⬍ SEL.    ◀▶ ADJ.    EXIT RETURN
```

5.  *Once the adjustment is completed ...*
    Press the "OK" button to return to the main menu.
    To delete the main menu, press the "OK" button once more.

*Note: If "CAN NOT ADJUST" appears ...*
*When trying to enter the PICTURE submenu, make sure PICTURE MODE is set to MEMORY.*

---

### Information

■ **Picture adjustment screen**

CONTRAST ....... Changes the picture's contrast.

BRIGHTNESS .... Changes the picture's brightness.

SHARPNESS ..... Changes the picture's sharpness. Adjusts picture detail of VIDEO display.

COLOR .............. Changes the color density.

TINT ................... Changes the picture's tint. Adjust for natural colored skin, background, etc.

■ **Adjusting the computer image**

Only the contrast and brightness can be adjusted when a computer signal is connected.

■ **Restoring the factory default settings**

Select "RESET" under the "PICTURE MODE" settings.

---

**Setting the picture mode according to the bright-ness of the room**

There are four picture modes that can be used effectively according to the environment in which you are viewing the display.

Example: Setting the "THEATER" mode

*Press the [3]-D1(ON) button on the remote controller to display the MAIN MENU on the screen, then...*

1. Use the ▲ and ▼ buttons to select "PICTURE", then press the [3]-D1(ON) button.
   The "PICTURE" screen appears.

2. Use the ▲ and ▼ buttons to select "PICTURE MODE".

```
              PICTURE
  ◑ CONTRAST       ⊖ ▭▭▭ ⊕
  ☼ BRIGHTNESS     ⊖ ▭▭▭ ⊕
  ◉ SHARPNESS      ⊖ ▭▭▭ ⊕
  ◈ COLOR          ⊖ ▭▭▭ ⊕
  ⚘ TINT           ℝ ▭▭▭ Ⓖ
  PICTURE MODE   : ◄MEMORY►
  ⚑ COLOR TEMP.  :  2
  ▦ NR           :  NR-2

  ⬍ SEL.    ◄► ADJ.   EXIT RETURN
```
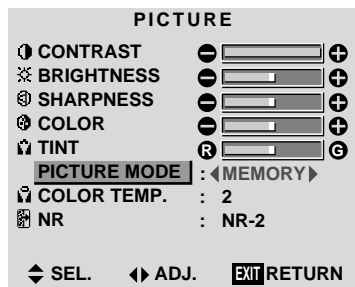
3. *To set to "THEATER" ...*
   Use the ◄ and ► buttons to select "THEATER".
   The mode switches as follows when the ◄ and ► buttons are pressed:

   ┌→ **MEMORY** ↔ **THEATER** ↔ **NORMAL** ↔ **RESET** ←┐

   ```
   PICTURE MODE  : ◄THEATER►
   ```

   \* If neither the ◄ or ► button is pressed within 5 seconds, the current selection is set and the previous screen reappears.

4. Press the [3]-D1(ON) button.
   The picture mode is set to "THEATER".

```
              PICTURE
  ◑ CONTRAST       ⊖ ▭▭▭ ⊕
  ☼ BRIGHTNESS     ⊖ ▭▭▭ ⊕
  ◉ SHARPNESS      ⊖ ▭▭▭ ⊕
  ◈ COLOR          ⊖ ▭▭▭ ⊕
  ⚘ TINT           ℝ ▭▭▭ Ⓖ
  PICTURE MODE   : ◄THEATER►
  ⚑ COLOR TEMP.  :  2
  ▦ NR           :  NR-2

  ⬍ SEL.    ◄► ADJ.   EXIT RETURN
```

5. *Once the adjustment is completed ...*
   Press the "OK" button to return to the main menu.
   To delete the main menu, press the "OK" button once more.

---

*Information*

■ **Types of picture modes**

MEMORY ...... The last picture adjustments are stored here.

THEATER ...... Set this mode when watching video in a dark room.
This mode provides darker, finer pictures, like the screen in movie theaters.
CONTRAST = 80% for RESET mode
BRIGHTNESS = 95% for RESET mode

NORMAL ....... Set this mode when watching video in a bright room.
This mode provides dynamic pictures with distinct differences between light and dark sections.
CONTRAST = 96% for RESET mode

RESET .......... Use this to reset the picture to the factory default settings.

32

**Setting the color temperature**

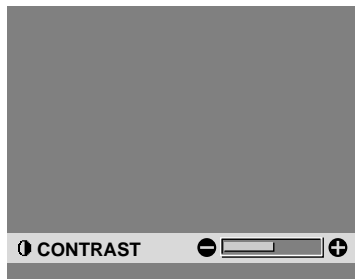Use this procedure to set color tone produced by the plasma display.

Example: Setting "1"

*Press the 3 -D1(ON) button on the remote controller to display the MAIN MENU on the screen, then...*

1. Use the ▲ and ▼ buttons to select "PICTURE", then press the 3 -D1(ON) button.
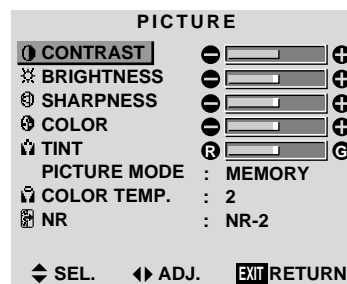   The "PICTURE" screen appears.

2. Use the ▲ and ▼ buttons to select "COLOR TEMP.".

```
              PICTURE

 ◑ CONTRAST        ⊖▐▬▬▬▬▬▐⊕
 ☼ BRIGHTNESS      ⊖▐▬▬▬▐ ⊕
 ◉ SHARPNESS       ⊖▐▬▬▬▬▐ ⊕
 ⊕ COLOR           ⊖▐▬▬▬▐ ⊕
 ♊ TINT            ℝ▐▬▬▬▐ ⅾ
    PICTURE MODE   :  MEMORY
 ▣ COLOR TEMP.     : ◀2 ▶
 ▣ NR              :  NR-2

 ⬍ SEL.    ◀▶ ADJ.    EXIT RETURN
```
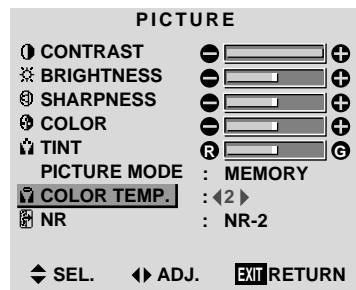
3. Use the ◀ and ▶ buttons to select "1".
   The mode switches as follows when the ◀ and ▶ buttons are pressed:

   ┌→ **1** ↔ **2** ↔ **3** ↔ **PRO** ←┐
   └────────────────────────────┘
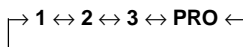
\* See page 35 to set "PRO".
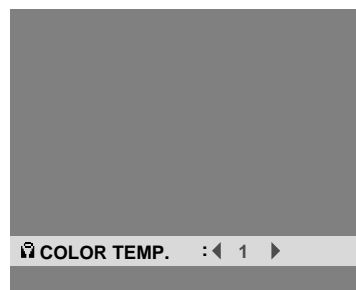
```
 ▣ COLOR TEMP.    : ◀  1  ▶
```

If neither the ◀ or ▶ button is pressed within 5 seconds, the current selection is set and the previous screen reppears.

4. Press the 3 -D1(ON) button.
   The "COLOR TEMP." is set to "1".
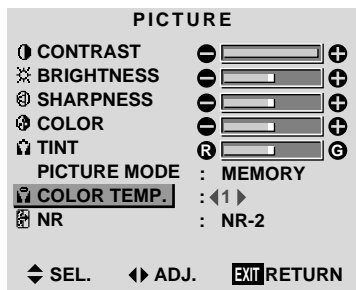
```
              PICTURE

 ◑ CONTRAST        ⊖▐▬▬▬▬▬▐⊕
 ☼ BRIGHTNESS      ⊖▐▬▬▬▐ ⊕
 ◉ SHARPNESS       ⊖▐▬▬▬▬▐ ⊕
 ⊕ COLOR           ⊖▐▬▬▬▐ ⊕
 ♊ TINT            ℝ▐▬▬▬▐ ⅾ
    PICTURE MODE   :  MEMORY
 ▣ COLOR TEMP.     : ◀1 ▶
 ▣ NR              :  NR-2

 ⬍ SEL.    ◀▶ ADJ.    EXIT RETURN
```

5. *Once the setting is completed...*
   Press the "OK" button to return to the main menu.
   To delete the main menu, press the "OK" button once more.

---

*Information*

■ **Setting the color temperature**

1 ........................ High (bluer)
2 ........................ Middle (Standard)
3 ........................ Low (redder)

■ **Restoring the factory default settings**

Select "RESET" under the function menu. Note that this also restores other settings to the factory defaults.

---

**Adjusting the color to the desired quality**
Use this procedure to adjust the white balance for bright pictures and dark pictures to achieve the desired color quality.

Example: Adjusting the "WHITE BALANCE"

*Press the 3 -D1(ON) button on the remote controller to display the MAIN MENU on the screen, then...*

1. Use the ▲ and ▼ buttons to select "PICTURE", then press the 3 -D1(ON) button.
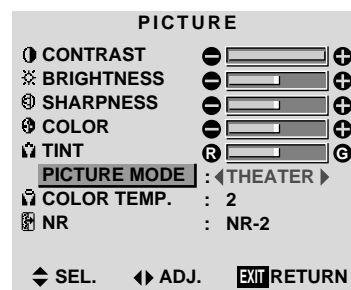   The "PICTURE" screen appears.

2. Use the ▲ and ▼ buttons to select "COLOR TEMP.".

```
          PICTURE

◑ CONTRAST       ⊖ ▭▭▭ ⊕
☼ BRIGHTNESS     ⊖ ▭▭▭ ⊕
◉ SHARPNESS      ⊖ ▭▭▭ ⊕
❂ COLOR          ⊖ ▭▭▭ ⊕
🎨 TINT           Ⓡ ▭▭▭ Ⓖ
  PICTURE MODE   :  MEMORY
🎨 COLOR TEMP.    : ◀2 ▶
📺 NR             :  NR-2

⬍ SEL.    ◀▶ ADJ.    EXIT RETURN
```

3. Use the ◀ and ▶ buttons to select "PRO".
   The mode switches as follows when the ◀ and ▶ buttons are pressed:
   ┌→ **1 ↔ 2 ↔ 3 ↔ PRO** ←┐
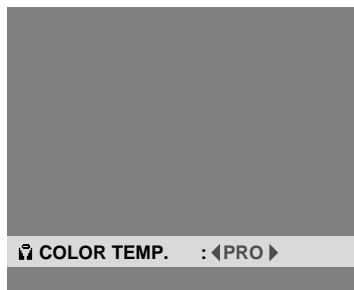
```
🎨 COLOR TEMP.    : ◀PRO ▶
```

If neither the ◀ or ▶ button is pressed within 5 seconds, the current selection is set and the previous screen reppears.

4. Press the 3 -D1(ON) button.
   The "WHITE BALANCE" screen appears.

5. Use the ▲ and ▼ buttons to select "RED-GAIN".

```
        WHITE BALANCE
GAIN
  RED       ⊖ ▭▭▭ ⊕
  GREEN     ⊖ ▭▭▭ ⊕
  BLUE      ⊖ ▭▭▭ ⊕
BIAS
  RED       ⊖ ▭▭▭ ⊕
  GREEN     ⊖ ▭▭▭ ⊕
  BLUE      ⊖ ▭▭▭ ⊕

⬍ SEL.    ◀▶ ADJ.    EXIT RETURN
```

6. Adjusts the white balance using the ◀ and ▶ buttons.

```
R-GAIN        ⊖ ▭▭▭ ⊕
```

   * If neither the ◀ or ▶ button is pressed within 5 seconds, the current setting is set and the previous screen reappears.

7. Press the 3 -D1(ON) button.
   The white balance has now been adjusted.
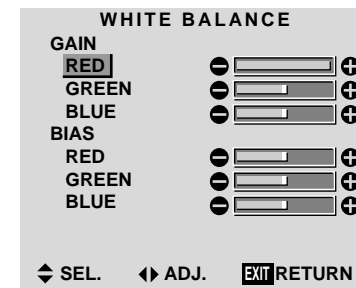
```
        WHITE BALANCE
GAIN
  RED       ⊖ ▭▭▭ ⊕
  GREEN     ⊖ ▭▭▭ ⊕
  BLUE      ⊖ ▭▭▭ ⊕
BIAS
  RED       ⊖ ▭▭▭ ⊕
  GREEN     ⊖ ▭▭▭ ⊕
  BLUE      ⊖ ▭▭▭ ⊕

⬍ SEL.    ◀▶ ADJ.    EXIT RETURN
```

8. *Once the adjustment is completed...*
   Press the "OK" button to return to the main menu.
   To delete the main menu, press the "OK" button once more.

---

### *Information*

■ **Adjusting the white balance**

RGB-GAIN .... White balance adjustment for signal level

RGB-BIAS ..... White balance adjustment for black level

■ **Restoring the factory default settings**

Restoring the factory default settings
Select "RESET" under the function menu. Note that this also restores other settings to the factory defaults.

---

34

## Reducing noise in the picture

Use these settings if the picture has noise due to poor reception or when playing video tapes on which the picture quality is poor.

Example: Setting "NR-3"

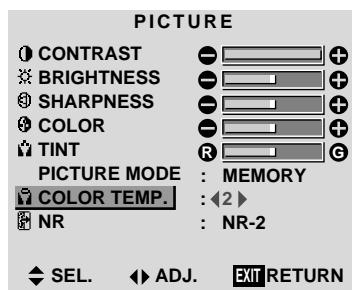*Press the 3-D1(ON) button on the remote controller to display the MAIN MENU on the screen, then...*

1. Use the ▲ and ▼ buttons to select "PICTURE", then press the 3-D1(ON) button.
   The "PICTURE" screen appears.
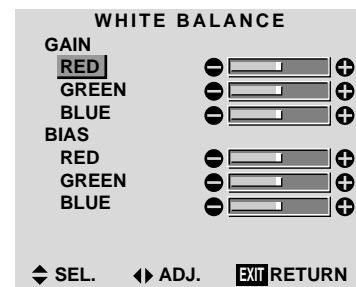
2. Use the ▲ and ▼ buttons to select "NR ".

```
            P I C T U R E
   CONTRAST        ⊖ ▬▬▬▬▬ ⊕
 ◐ BRIGHTNESS      ⊖ ▬▬      ⊕
 ※ SHARPNESS       ⊖ ▬▬▬▬    ⊕
 ◉ COLOR          ⊖ ▬▬▬▬     ⊕
 ◑ TINT            R ▬▬▬      G
 ⌂ PICTURE MODE  :  MEMORY
 ⌂ COLOR TEMP.   :  2
 ▤ NR            : ◀ NR-2 ▶

 ⬍ SEL.    ◀▶ ADJ.    EXIT RETURN
```

3. Use the ◀ and ▶ buttons to select "NR-3".
   The mode switches as follows when the ◀ and ▶ buttons are pressed:

   → **OFF ↔ NR–1 ↔ NR–2 ↔ NR–3** ←
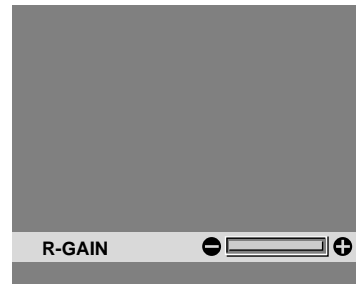
```



 ▤ NR              : ◀ NR-3 ▶

```

   * If neither the ◀ or ▶ button is pressed within 5 seconds, the current selection is set and the previous screen reappears.

4. Press the 3-D1(ON) button.
   The noise reduction mode is set to "NR-3".

```
            P I C T U R E
 ◑ CONTRAST        ⊖ ▬▬▬▬▬ ⊕
 ※ BRIGHTNESS      ⊖ ▬▬      ⊕
 ◉ SHARPNESS       ⊖ ▬▬▬▬    ⊕
 ◉ COLOR          ⊖ ▬▬▬▬     ⊕
 ⌂ TINT            R ▬▬▬      G
   PICTURE MODE  :  MEMORY
 ⌂ COLOR TEMP.   :  2
 ▤ NR            : ◀ NR-3 ▶

 ⬍ SEL.    ◀▶ ADJ.    EXIT RETURN
```

5. *Once the setting is completed ...*
   Press the "OK" button to return to the main menu.
   To delete the main menu, press the "OK" button once more.

---

### *Information*

■ **NR**

* "NR" stands for Noise Reduction.
* This function reduces noise in the picture.

■ **Types of noise reduction**

There are three types of noise reduction. Each has a different level of noise reduction.

The effect becomes stronger as the number increases (in the order NR-1 → NR-2 → NR-3).

OFF ..........Turns the noise reduction function off.

---

## Sound Settings Menu

**Adjusting the treble, bass and left/right balance**
The treble, bass and left/right balance can be adjusted to suit your tastes.

Example: Adjusting the bass

*Press the ③-D1(ON) button on the remote controller to display the MAIN MENU on the screen, then...*

1. Use the ▲ and ▼ buttons to select "SOUND", then press the ③-D1(ON) button.
   The "SOUND" screen appears.

2. *To adjust the bass ...*
   Use the ▲ and ▼ buttons to select "BASS".

```
                  SOUND
 🔊 BASS          ⊖ ▭▭▭▭▭ ⊕
  𝄢 TREBLE        ⊖ ▭▭▭▭▭ ⊕
  ⏸ BALANCE       Ⓛ ▭▭▭▭▭ Ⓡ




   ⬍ SEL.    ⬌ ADJ.    EXIT RETURN
```

3. Adjust the bass using the ◀ and ▶ buttons.

```
                  SOUND
 🔊 BASS          ⊖ ▭▭▭▭▭ ⊕
  𝄢 TREBLE        ⊖ ▭▭▭▭▭ ⊕
  ⏸ BALANCE       Ⓛ ▭▭▭▭▭ Ⓡ




   ⬍ SEL.    ⬌ ADJ.    EXIT RETURN
```

* If neither the ◀ or ▶ button is pressed within 5 seconds, the current selection is set and the previous screen reappears.
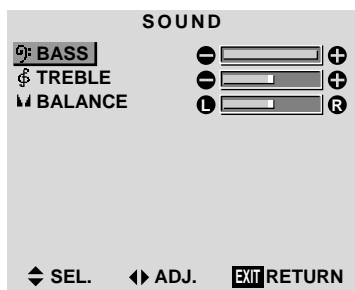
*To continue adjusting the sound ...*
Repeat from step 2.

4. Press the ③-D1(ON) button.
   The bass has now been adjusted.
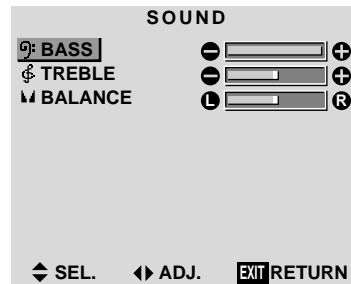
```
                  SOUND
 🔊 BASS          ⊖ ▭▭▭▭▭ ⊕
  𝄢 TREBLE        ⊖ ▭▭▭▭▭ ⊕
  ⏸ BALANCE       Ⓛ ▭▭▭▭▭ Ⓡ




   ⬍ SEL.    ⬌ ADJ.    EXIT RETURN
```

5. Once the adjustment is completed ...
   Press the "OK" button to return to the main menu.
   To delete the main menu, press the "OK" button once more.

*Note: If "CAN NOT ADJUST" appears ...*
*Set AUDIO INPUT on the OPTION menu correctly.*

---

### *Information*

#### ■ Sound settings menu

BASS ................. Changes the level of low frequency sound.

TREBLE ............. Changes the level of high frequency sound.

BALANCE .......... Changes the balance of the left and right channels.

#### ■ Restoring the factory default settings

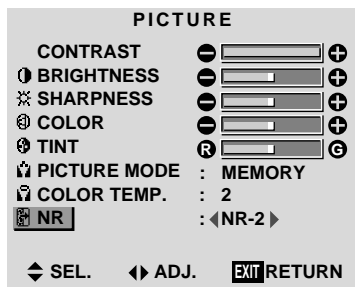Select "RESET" under the function menu. Note that this also restores other settings to the factory defaults.

---

## Screen Settings Menu

**Adjusting the Position, Size, Fine Picture, Picture Adj**
The position of the image can be adjusted and flickering of the image can be corrected.

Example: Adjusting the vertical position in the normal mode
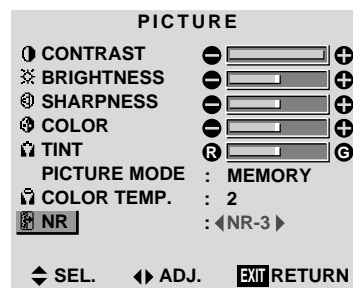
*Press the ③-D1(ON) button on the remote controller to display the MAIN MENU on the screen, then...*

1. Use the ▲ and ▼ buttons to select "SCREEN", then press the ③-D1(ON) button.
   The "SCREEN" menu appears.
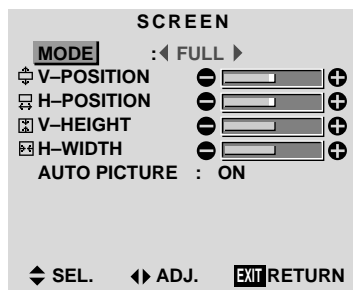
   

2. *To adjust the normal mode ...*
   Use the ◀ and ▶ buttons to select "NORMAL".
   The mode switches as follows when the ◀ and ▶ buttons are pressed:

   ┌→ **NORMAL ↔ FULL** ←┐
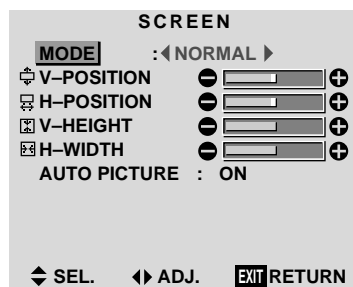
   

   \* The mode can also be switched by pressing the "WIDE" button on the remote controller.

3. *To adjust the vertical position ...*
   Use the ▲ and ▼ buttons to select "V-POSITION".
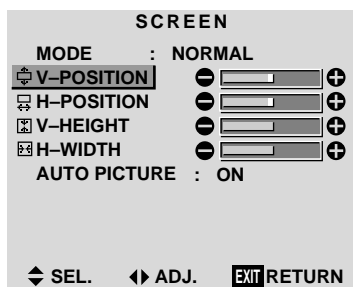
   

4. Adjust using the ◀ and ▶ buttons.
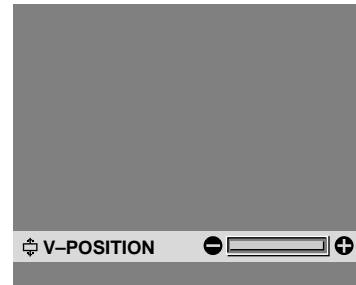
   

   \* If neither the ◀ or ▶ button is pressed within 5 seconds, the current adjustment is set and the previous screen reappears.

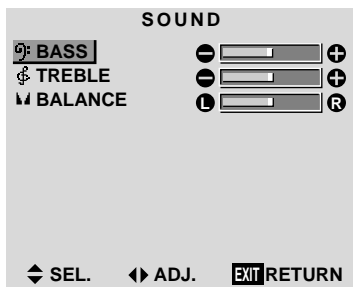   *To continue making other computer image adjustments ...*
   Repeat from step 3.

5. Press the ③-D1(ON) button.
   The vertical position of the computer's image has now been adjusted.
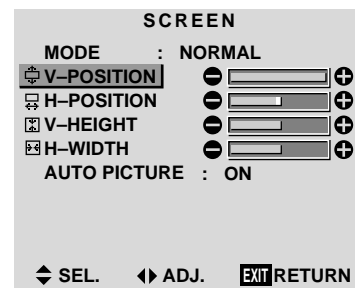
   

6. *Once all adjustments are completed ...*
   Press the "OK" button to return to the main menu.
   To delete the main menu, press the "OK" button once more.

---

### *Information*

#### ■ When "AUTO PICTURE" is "OFF"
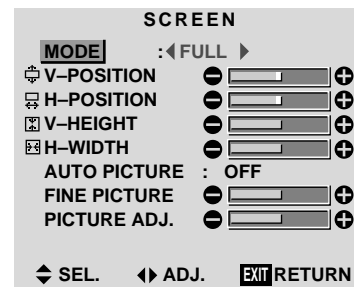


When Auto Picture is off, the Fine Picture and the Picture ADJ items are displayed so that you can adjust them.

37

## Function Settings Menu

### Setting the on-screen display

When using the monitor for presentations, etc., the monitor can be set so that the input source, screen mode, etc., do not appear.

Example: Turning the on-screen display mode off

*Press the ③-D1(ON) button on the remote controller to display the MAIN MENU on the screen, then...*

1. Use the ▲ and ▼ buttons to select "FUNCTION", then press the ③-D1(ON) button.
   The "FUNCTION" screen appears.

2. Use the ▲ and ▼ buttons to select "OSM".

```
           F U N C T I O N

  OSM              : ◀ON▶
  OSM ADJ.         :  1
  POWER MGT        :  OFF
  GRAY LEVEL       :  3
  PLE+INVERSE      :  AUTO
  CINEMA MODE      :  AUTO
  RESET


  ⬍ SEL.    ◀▶ ADJ.    EXIT RETURN
```
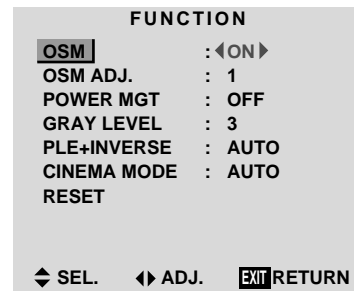
3. *To turn the on-screen display mode off ...*
   Use the ◀ and ▶ buttons to select "OFF".
   The mode switches as follows each time the ◀ or ▶ button is pressed:
   **ON ↔ OFF**
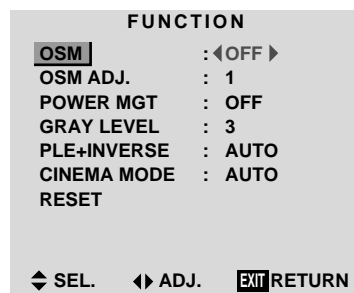
```
           F U N C T I O N

  OSM              : ◀OFF▶
  OSM ADJ.         :  1
  POWER MGT        :  OFF
  GRAY LEVEL       :  3
  PLE+INVERSE      :  AUTO
  CINEMA MODE      :  AUTO
  RESET


  ⬍ SEL.    ◀▶ ADJ.    EXIT RETURN
```

4. *Once the setting is completed ...*
   Press the "OK" button to return to the main menu.
   To delete the main menu, press the "OK" button once more.

**Adjusting the position of the menu display**
Use these operations to adjust the position of the menus that appear on screen.

Example: Adjusting the position of the menu display

*Press the* 3 *-D1(ON) button on the remote controller to display the MAIN MENU on the screen, then...*

1.  Use the ▲ and ▼ buttons to select "FUNCTION", then press the 3 -D1(ON) button.
    The "FUNCTION" menu appears.

2.  Use the ▲ and ▼ buttons to select "OSM ADJ."

```
            F U N C T I O N
OSM             :  ON
OSM ADJ.        : ◀ 1 ▶
POWER MGT       :  OFF
GRAY LEVEL      :  3
PLE+INVERSE     :  AUTO
CINEMA MODE     :  AUTO
RESET

⬍ SEL.    ◀▶ ADJ.    EXIT RETURN
```

```
        F U N C T I O N
OSM            : ◀ON▶
OSM ADJ.       : 1
POWER MGT      : OFF
GRAY LEVEL     : 3
PLE            : AUTO
CINEMA MODE    : AUTO
RESET

⬍ SEL.  ◀▶ ADJ.  EXIT RETURN
```

3.  *To adjust the position...*
    Adjust using the ◀ and ▶ buttons.

```
            F U N C T I O N
OSM             :  ON
OSM ADJ.        : ◀ 2 ▶
POWER MGT       :  OFF
GRAY LEVEL      :  3
PLE+INVERSE     :  AUTO
CINEMA MODE     :  AUTO
RESET

⬍ SEL.    ◀▶ ADJ.    EXIT RETURN
```

```
        F U N C T I O N
OSM            : ◀ON▶
OSM ADJ.       : 1
POWER MGT      : OFF
GRAY LEVEL     : 3
PLE            : AUTO
CINEMA MODE    : AUTO
RESET

⬍ SEL.  ◀▶ ADJ.  EXIT RETURN
```

4.  *Once all adjustments are completed ...*
    Press the "OK" button to return to the main menu.
    To delete the main menu, press the "OK" button once more.

---

### *Information*

■ **Adjusting the position of the menu display**

| 1 | 2 | 3 |
|---|---|---|
| 4 | 5 | 6 |
| 7 | 8 | 9 |
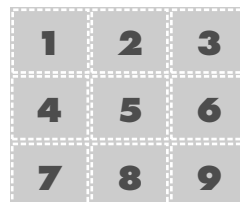
The position can be set between 1 and 9.

■ **Restoring the factory default settings**

Select "RESET" under the function menu. Note that this also restores other settings to the factory defaults.

---

**Setting the power management for computer images**
This energy-saving (power management) function automatically reduces the monitor's power consumption if no operation is performed for a certain amount of time.

Example: Turning the power management function on

*Press the 3 -D1(ON) button on the remote controller to display the MAIN MENU on the screen, then...*

1. Use the ▲ and ▼ buttons to select "FUNCTION", then press the 3 -D1(ON) button.
   The "FUNCTION" screen appears.

2. Use the ▲ and ▼ buttons to select "POWER MGT".

```
            FUNCTION
OSM            :  ON
OSM ADJ.       :  1
POWER MGT      : ◀OFF▶
GRAY LEVEL     :  3
PLE+INVERSE    :  AUTO
CINEMA MODE    :  AUTO
RESET

  ⬍ SEL.   ◀▶ ADJ.   EXIT RETURN
```

3. *To turn the power management function on ...*
   Use the ◀ and ▶ buttons to select "ON".
   The mode switches as follows each time the ◀ or ▶ button is pressed:

   **ON ↔ OFF**

```
            FUNCTION
OSM            :  ON
OSM ADJ.       :  1
POWER MGT      : ◀ON▶
GRAY LEVEL     :  3
PLE+INVERSE    :  AUTO
CINEMA MODE    :  AUTO
RESET

  ⬍ SEL.   ◀▶ ADJ.   EXIT RETURN
```

4. *Once the setting is completed ...*
   Press the "OK" button to return to the main menu.
   To delete the main menu, press the "OK" button once more.

---

## *Information*

### ■ Power management function

* The power management function automatically reduces the monitor's power consumption if the computer's keyboard or mouse is not operated for a certain amount of time. This function can be used when using the monitor with a computer conforming to the VESA DPMS format.
* If the computer's power is not turned on or if the computer and selector tuner are not properly connected, the system is set to the off state.
* For instructions on using the computer's power management function, refer to the computer's operating instructions.

### ■ Power management settings

ON ............ In this mode the power management function is turned on.
OFF .......... In this mode the power management function is turned off.

### ■ Power management function and POWER/ STANDBY indicator

The POWER/STANDBY indicator indicates the status of the power management function. See page 41 for indicator status and description.

### ■ Restoring the factory default settings

Select "RESET" under the function menu. Note that this also restores other settings to the factory defaults.

40

## POWER/STANDBY indicator

| Power management mode | POWER/STANDBY indicator | Power management operating status | Description | Turning the picture back on |
|---|---|---|---|---|
| On | Green | Not activated. | Horizontal and vertical synchronizing signals are present from the computer. | Picture already on. |
| Standby | Orange | Activated. | No horizontal synchronizing signals are sent from the computer. | Operate the keyboard or mouse. The picture reappears immediately. |
| Suspend | Red | Activated. | No vertical synchronizing signals are sent from the computer. | Operate the keyboard or mouse. The picture reappears, but more time is required than from the standby mode. |
| Off | Red | Activated. | No horizontal or vertical synchronizing signals are sent from the computer. | Operate the keyboard or mouse. The picture reappears, but more time is required than from the standby mode or suspend mode. |

**Setting the gray level for the sides of the screen**
Use this procedure to set the gray level for the parts on the screen on which nothing is displayed when the screen is set to the 4:3 size.

Example: Adjusting the "GRAY LEVEL"

*Press the ③-D1(ON) button on the remote controller to display the MAIN MENU on the screen, then...*

1. Use the ▲ and ▼ buttons to select "FUNCTION", then press the ③-D1(ON) button.
   The "FUNCTION" screen appears.

2. Use the ▲ and ▼ buttons to select "GRAY LEVEL".

```
              F U N C T I O N

   OSM             :  ON
   OSM ADJ.        :  1
   POWER MGT       :  OFF
   GRAY LEVEL      : ◀3▶
   PLE+INVERSE     :  AUTO
   CINEMA MODE     :  AUTO
   RESET


   ⬍ SEL.    ◀▶ ADJ.    EXIT RETURN
```
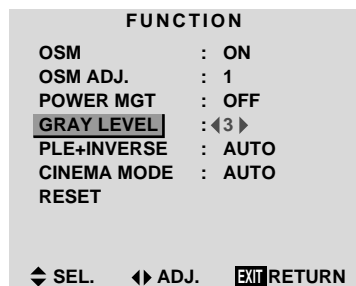
3. *To adjust the "GRAY LEVEL"...*
   Use the ◀ and ▶ buttons to adjust the GRAY LEVEL.

```
              F U N C T I O N

   OSM             :  ON
   OSM ADJ.        :  1
   POWER MGT       :  OFF
   GRAY LEVEL      : ◀9▶
   PLE+INVERSE     :  AUTO
   CINEMA MODE     :  AUTO
   RESET


   ⬍ SEL.    ◀▶ ADJ.    EXIT RETURN
```

5. *Once the setting is completed ...*
   Press the "OK" button to return to the main menu.
   The delete the main menu, press the "OK" button once more.

---

### *Information*

#### ■ **GRAY LEVEL**

This adjusts the brightness of the black (the gray level) for the sides of the screen.
The standard is 0 (black). The level can be adjusted from 1 to 15. The factory setting is 3 (dark gray).

#### ■ **Restoring the factory default settings**

Select "RESET" under the function menu. Note that this also restores other settings to the factory defaults.
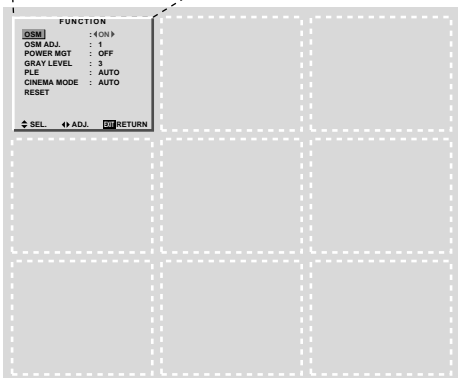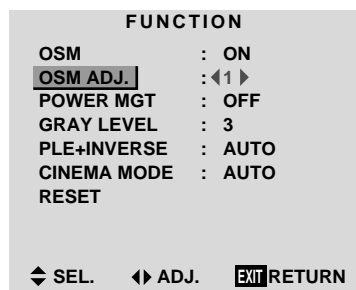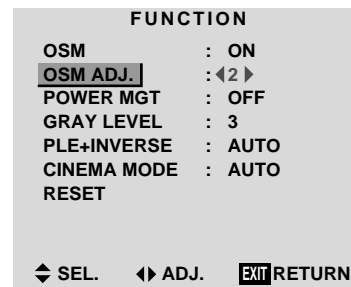
---

**Setting the brightness level to the minimum**
Locking this mode allows you to dim the picture.

Example: Setting the "PLE+INVERSE" to "LOCK"

*Press the ③-D1(ON) button on the remote controller to display the MAIN MENU on the screen, then...*

1. Use the ▲ and ▼ buttons to select "FUNCTION", then press the ③-D1(ON) button.
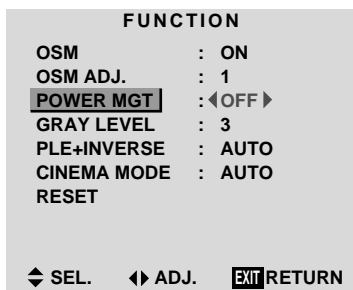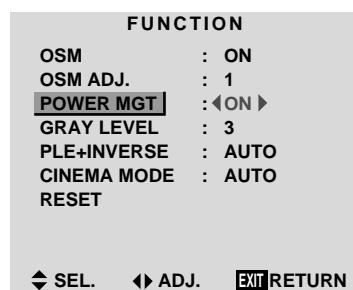   The "FUNCTION" screen appears.

2. Use the ▲ and ▼ buttons to select "PLE+INVERSE".

```
              F U N C T I O N

   OSM             :  ON
   OSM ADJ.        :  1
   POWER MGT       :  OFF
   GRAY LEVEL      :  3
   PLE+INVERSE     : ◀AUTO▶
   CINEMA MODE     :  AUTO
   RESET


   ⬍ SEL.    ◀▶ ADJ.    EXIT RETURN
```

3. *To set the PLE+INVERSE to "LOCK" ...*
   Use the ◀ and ▶ buttons to select "LOCK".
   The mode switches as follows each time the ◀ or ▶ button is pressed:
   ┌─ **AUTO ↔ LOCK ↔ LOCK+ON ↔ AUTO+ON** ─┐

```
              F U N C T I O N

   OSM             :  ON
   OSM ADJ.        :  1
   POWER MGT       :  OFF
   GRAY LEVEL      :  3
   PLE+INVERSE     : ◀LOCK▶
   CINEMA MODE     :  AUTO
   RESET


   ⬍ SEL.    ◀▶ ADJ.    EXIT RETURN
```

4. *Once the setting is completed ...*
   Press the "OK" button to return to the main menu.
   The delete the main menu, press the "OK" button once more.

---

### *Information*

#### ■ **PLE+INVERSE**

AUTO ............ Normally set to AUTO.
LOCK ............ Sets the brightness level to the minimum.
AUTO+ON ..... Turns on the inverse function.
LOCK+ON ..... Turns on the inverse function as well as the lock function.

#### ■ **Restoring the factory default settings**

Select "RESET" under the function menu. Note that this also restores other settings to the factory defaults.

---

42

## Setting the picture to suit the movie

The film image is automatically discriminated and projected in an image mode suited to the picture.
[NTSC, PAL60, 480I (60Hz) only]

Example: Setting the "CINEMA MODE" to "ON"

*Press the ③-D1(ON) button on the remote controller to display the MAIN MENU on the screen, then...*

1. Use the ▲ and ▼ buttons to select "FUNCTION", then press the "OK" button.
   The "FUNCTION" screen appears.

2. Use the ▲ and ▼ buttons to select "CINEMA MODE".

```
          FUNCTION

OSM             :  ON
OSM ADJ.        :  1
POWER MGT       :  OFF
GRAY LEVEL      :  3
PLE+INVERSE     :  AUTO
CINEMA MODE     : ◄AUTO►
RESET


 ♦ SEL.    ◄► ADJ.    EXIT RETURN
```

3. *To set the CINEMA MODE to "ON" ...*
   Use the ◄ and ► buttons to select "ON".
   The mode switches as follows each time the ◄ or ► button is pressed:
   ┌→ **AUTO ↔ ON ↔ OFF** ←┐

```
          FUNCTION

OSM             :  ON
OSM ADJ.        :  1
POWER MGT       :  OFF
GRAY LEVEL      :  3
PLE+INVERSE     :  AUTO
CINEMA MODE     : ◄ON ►
RESET


 ♦ SEL.    ◄► ADJ.    EXIT RETURN
```

4. *Once the setting is completed ...*
   Press the "OK" button to return to the main menu.
   To delete the main menu, press the "OK" button once more.

---

### *Information*

#### ■ CINEMA MODE

AUTO ............ Automatic discrimination of the image and projection in cinema mode.
ON ................. All images are projected in cinema mode.
OFF .............. Cinema mode does not function.

#### ■ Restoring the factory default settings

Select "RESET" under the function menu. Note that this also restores other settings to the factory defaults.

---

## Resetting to the default values

Use these operations to restore all the picture adjustments, audio settings, to the factory default values.
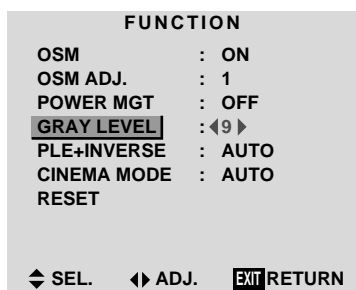Refer to page 17 for items to be reset.

*Press the ③-D1(ON) button on the remote controller to display the MAIN MENU on the screen, then...*

1. Use the ▲ and ▼ buttons to select "FUNCTION", then press the ③-D1(ON) button.
   The "FUNCTION" screen appears.

2. Use the ▲ and ▼ buttons to select "RESET", then press the ③-D1(ON) button.

```
          FUNCTION

OSM             :  ON
OSM ADJ.        :  1
POWER MGT       :  OFF
GRAY LEVEL      :  3
PLE+INVERSE     :  AUTO
CINEMA MODE     :  AUTO
RESET


 ♦ SEL.  PROCEED OK   EXIT RETURN
```

The "RESET" screen appears.

3. Use the ▲ and ▼ buttons to select "RESET", then press the ③-D1(ON) button.

```
             RESET
RESET
 ⤶ RETURN






     PROCEED OK      EXIT RETURN
```

```
             RESET




        SETTING NOW



```

When the "SETTING NOW" screen disappears, the screen will be restored to the previous "RESET" mode, then all the settings are restored to the default values.

4. *Once the setting is completed ...*
   Press the "OK" button.
   To delete the main menu, press the "OK" button once more.

# Option Setting Menu

**Setting the allocation of the audio connectors**

Setting the AUDIO 1, 2, and 3 connectors to the desired input.

Example: Set AUDIO 1 to RGB 2.

*Press the 3 -D1(ON) button on the remote controller to display the MAIN MENU on the screen, then...*

1. Use the ▲ and ▼ buttons to select "OPTION", then press the 3 -D1(ON) button.
   The "OPTION" screen appears.

2. Use the ▲ and ▼ buttons to select "AUDIO 1".

```
                    OPTION
    AUDIO INPUT
      AUDIO1          : ◄RGB1►
      AUDIO2          :  VIDEO1
      AUDIO3          :  HD/DVD1
      BNC SELECT      :  RGB
      RGB SELECT      :  RGB
      HD SELECT       :  1080B
      RGB3 ADJ.       :  1

    ♦ SEL.    ◄► ADJ.    EXIT RETURN
```

3. *To set the AUDIO1 to "RGB2"...*
   Use the ▲ and ▼ buttons to select "AUDIO1".
   Use the ◄ and ► buttons to select "RGB2".
   The mode switches as follows each time the ◄ or ► button is pressed:

   → VIDEO1 ↔ VIDEO2 ↔ VIDEO3 ↔ HD/DVD1 ↔ RGB1 ↔ RGB2 ↔ RGB3 ←

```
                    OPTION
    AUDIO INPUT
      AUDIO1          : ◄RGB2►
      AUDIO2          :  VIDEO1
      AUDIO3          :  HD/DVD1
      BNC SELECT      :  RGB
      RGB SELECT      :  RGB
      HD SELECT       :  1080B
      RGB3 ADJ.       :  1

    ♦ SEL.    ◄► ADJ.    EXIT RETURN
```

4. Once setting is completed...
   Press the "OK" button to return to the main menu.
   To delete the main menu, press the "OK" button once more.

## *Information*

### ■ AUDIO INPUT

A single audio input cannot be selected as the audio channel for more than one input terminal.

### ■ Restoring the factory default settings

Select "RESET" under the function menu. Note that this also restores other settings to the factory defaults.
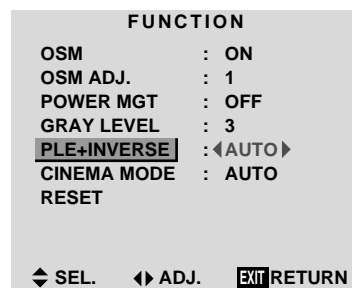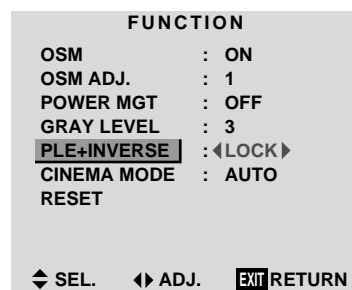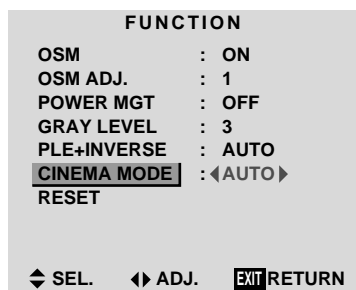
---

**Setting the BNC connectors**

Select whether to set the input of the 5 BNC connectors to RGB or component.
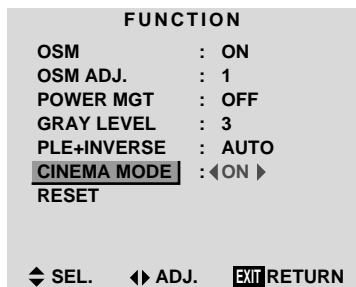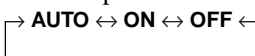
Example: Set the BNC SELECT mode to "COMP."

*Press the 3 -D1(ON) button button on the remote controller to display the MAIN MENU on the screen, then...*

1. Use the ▲ and ▼ buttons to select "OPTION", then press the 3 -D1(ON) button.
   The "OPTION" screen appears.

2. Use the ▲ and ▼ buttons to select "BNC SELECT".

```
                    OPTION
    AUDIO INPUT
      AUDIO1          :  RGB1
      AUDIO2          :  VIDEO1
      AUDIO3          :  HD/DVD1
      BNC SELECT      : ◄RGB►
      RGB SELECT      :  RGB
      HD SELECT       :  1080B
      RGB3 ADJ.       :  1

    ♦ SEL.    ◄► ADJ.    EXIT RETURN
```

3. To set the BNC SELECT mode to "COMP"...
   Use the ◄ and ► buttons to select "COMP".
   The mode switches as follows each time the ◄ or ► button is pressed:

   ┌─ RGB ↔ COMP. ─┐

```
                    OPTION
    AUDIO INPUT
      AUDIO1          :  RGB1
      AUDIO2          :  VIDEO1
      AUDIO3          :  HD/DVD1
      BNC SELECT      : ◄COMP.►
      RGB SELECT      :  RGB
      HD SELECT       :  1080B
      RGB3 ADJ.       :  1

    ♦ SEL.    ◄► ADJ.    EXIT RETURN
```

4. Once setting is completed...
   Press the "OK" button to return to the main menu.
   To delete the main menu, press the "OK" button once more.

## *Information*

### ■ BNC SELECT

RGB .............. Uses the 5BNC terminal for RGB input.

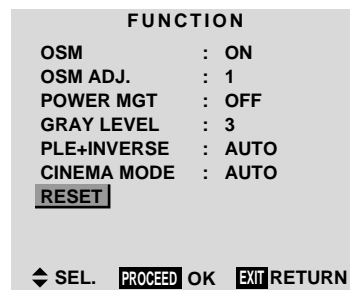COMP. ........... Use the 3BNC terminal for component input.

### ■ Restoring the factory default settings

Select "RESET" under the function menu. Note that this also restores other settings to the factory defaults.

**Setting a computer image to the correct RGB select screen**

On the computer image select the RGB mode, moving image (video) mode, wide mode or digital broadcast.
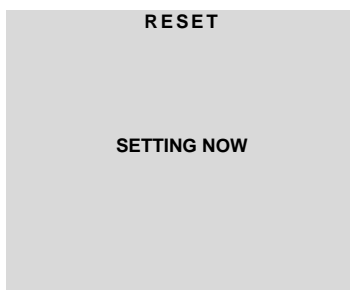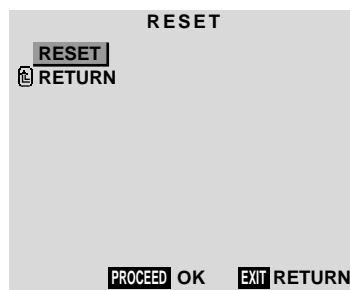
Example: Setting the RGB SELECT mode to "VIDEO"

*Press the 3 -D1(ON) button on the remote controller to display the MAIN MENU on the screen, then...*

1. Use the ▲ and ▼ buttons to select "OPTION", then press the 3 -D1(ON) button.
   The "OPTION" screen appears.

2. Use the ▲ and ▼ buttons to select "RGB SELECT".

```
                O P T I O N
    AUDIO INPUT
      AUDIO1        :  RGB1
      AUDIO2        :  VIDEO1
      AUDIO3        :  HD/DVD1
    BNC SELECT      :  RGB
    RGB SELECT      : ◀ RGB ▶
    HD SELECT       :  1080B
    RGB3 ADJ.       :  1

    ⬍ SEL.    ◀▶ ADJ.    EXIT RETURN
```

3. *To set the RGB select mode to "VIDEO" ...*
   Use the ◀ and ▶ buttons to select "VIDEO".
   The mode switches as follows each time the ◀ or ▶ button is pressed:
   → **RGB ↔ VIDEO ↔ WIDE ↔ DTV ←**

```
                O P T I O N
    AUDIO INPUT
      AUDIO1        :  RGB1
      AUDIO2        :  VIDEO1
      AUDIO3        :  HD/DVD1
    BNC SELECT      :  RGB
    RGB SELECT      : ◀ VIDEO ▶
    HD SELECT       :  1080B
    RGB3 ADJ.       :  1

    ⬍ SEL.    ◀▶ ADJ.    EXIT RETURN
```

4. *Once the setting is completed ...*
   Press the "OK" button to return to the main menu.
   To delete the main menu, press the "OK" button once more.

---

### *Information*

### ■ **RGB SELECT modes**

One of these 4 modes must be selected in order to display the following signals correctly.

RGB ......... VESA 640×480@60Hz (Use this mode for normal computer images.)
VIDEO ...... To display the video signal that is converted to the RGB signal, set this mode.
WIDE ........ When an 852 dot× 480 line signal with a horizontal frequency of 31.72 KHz is input, the image may be compressed horizontally. To prevent this, set RGB SELECT to WIDE.
DTV .......... Set this model when watching digital broad casting (480P).

### ■ **Restoring the factory default settings**

Select "RESET" under the function menu. Note that this also restores other settings to the factory defaults.
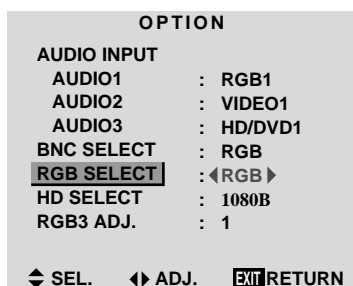
## Setting high definition images to the suitable screen size

Use this procedure to set whether the number of vertical lines of the input high definition image is 1035 or 1080.

Example: Setting the "1080B" mode to "1035I"

*Press the ③-D1(ON) button on the remote controller to display the MAIN MENU on the screen, then...*

1. Use the ▲ and ▼ buttons to select "OPTION", then press the ③-D1(ON) button.
   The "OPTION" screen appears.

2. Use the ▲ and ▼ buttons to select "HD SELECT".

```
              OPTION
AUDIO INPUT
   AUDIO1        :  RGB1
   AUDIO2        :  VIDEO1
   AUDIO3        :  HD/DVD1
BNC SELECT       :  RGB
RGB SELECT       :  RGB
HD SELECT        : ◀1080B ▶
RGB3 ADJ.        :  1

 ⬍ SEL.   ◀▶ ADJ.   EXIT RETURN
```

3. *To set the HD SELECT mode to "1035I" ...*
   Use the ◀ and ▶ buttons to select "1035I".
   The mode switches as follows each time the ◀ or ▶ button is pressed:
   
   1080A ↔ 1080B ↔ 1035I

```
              OPTION
AUDIO INPUT
   AUDIO1        :  RGB1
   AUDIO2        :  VIDEO1
   AUDIO3        :  HD/DVD1
BNC SELECT       :  RGB
RGB SELECT       :  RGB
HD SELECT        : ◀1035I ▶
RGB3 ADJ.        :  1

 ⬍ SEL.   ◀▶ ADJ.   EXIT RETURN
```

4. *Once the setting is completed ...*
   Press the "OK" button to return to the main menu.
   To delete the main menu, press the "OK" button once more.

### *Information*

#### ■ HD SELECT modes

These 2 mode are not displayed in correct image automatically.

1080A ....... Special digital broadcasts (for example : DTC100) [RGB/ PC only]
1080B ....... Standard digital broadcasts
1035I ......... Japanese "High Vision" signal format

## Adjusting the display position in the RGB3 input mode

If the image is not stable when in the RGB3 input mode, switch the "RGB3 ADJ." number to 2 or 3.

Example: Setting the "1" mode to "2"

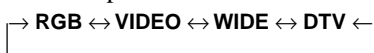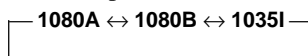*Press the ③-D1(ON) button on the remote controller to display the MAIN MENU on the screen, then...*

1. Use the ▲ and ▼ buttons to select "OPTION", then press the ③-D1(ON) button.
   The "OPTION" screen appears.

2. Use the ▲ and ▼ buttons to select "RGB3 ADJ.".

```
              OPTION
AUDIO INPUT
   AUDIO1        :  RGB1
   AUDIO2        :  VIDEO1
   AUDIO3        :  HD/DVD1
BNC SELECT       :  RGB
RGB SELECT       :  RGB
HD SELECT        :  1080B
RGB3 ADJ.        : ◀1 ▶

 ⬍ SEL.   ◀▶ ADJ.   EXIT RETURN
```

3. *To set RGB3 ADJ. mode to "2"...*
   Use the ◀ and ▶ buttons to select "2".
   The mode switches as follows when the ◀ or ▶ buttons are pressed:
   
   1 ↔ 2 ↔ 3

```
              OPTION
AUDIO INPUT
   AUDIO1        :  RGB1
   AUDIO2        :  VIDEO1
   AUDIO3        :  HD/DVD1
BNC SELECT       :  RGB
RGB SELECT       :  RGB
HD SELECT        :  1080B
RGB3 ADJ.        : ◀2 ▶

 ⬍ SEL.   ◀▶ ADJ.   EXIT RETURN
```

4. *Once the adjustment is completed ...*
   Press the "OK" button to return to the main menu.
   To delete the main menu, press the "OK" button once more.

### *Information*

#### ■ RGB3 ADJ.

The display position will change when the number is changed; when using the unit with "AUTO PICTURE" ON, switch it OFF and then back ON again to return the display position to its original location.
When using the unit with "AUTO PICTURE" OFF, please perform the display position adjustment again.

#### ■ Restoring the factory default settings

Select "RESET" under the function menu. Note that this also restores other settings to the factory defaults.

46

# Information Menu

## Checking the frequencies and polarities of input signals

Use this function to check the frequencies and polarities of the signals currently being inputted from a computer, etc.

*Press the ③-D1(ON) button on the remote controller to display the MAIN MENU on the screen, then...*

1. Use the ▲ and ▼ buttons to select "INFORMATION", then press the ③-D1(ON) button.
   The "INFORMATION" screen appears.

2. Use the ▲ and ▼ buttons to select "FREQUENCY", then press the ③-D1(ON) button.

```
             INFORMATION
    FREQUENCY
    LANGUAGE
    COLOR SYSTEM




    ◆ SEL.   PROCEED OK  EXIT RETURN
```

3. The frequency is displayed.

```
             FREQUENCY
    H. FREQ    : 37.5KHz
    V. FREQ    : 75.0Hz

    H. POL     : NEG.
    V. POL     : NEG.



                   EXIT RETURN
```
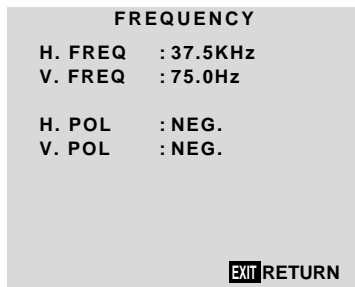
   * Press the "OK" button to return to the previous screen.

4. Once you have checked the frequency ...
   Press the "OK" button to return to the main menu.
   To delete the main menu, press the "OK" button once more.

## Setting the language for the menus

The menu display can be set to one of seven languages: Japanese, English, German, French, Swedish, Italian or Spanish.
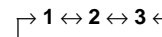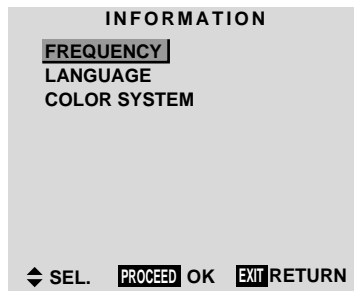
Example: Setting the menu display to "DEUTSCH"

*Press the ③-D1(ON) button on the remote controller to display the MAIN MENU on the screen, then...*

1. Use the ▲ and ▼ buttons to select "INFORMATION", then press the ③-D1(ON) button.
   The "INFORMATION" screen appears.

2. Use the ▲ and ▼ buttons to select "LANGUAGE", then press the ③-D1(ON) button.

```
             INFORMATION
    FREQUENCY
    LANGUAGE
    COLOR SYSTEM




    ◆ SEL.   PROCEED OK  EXIT RETURN
```
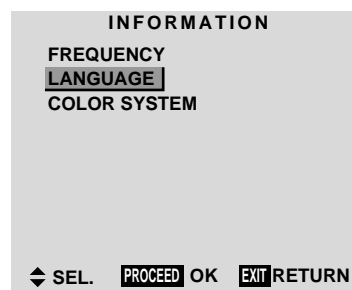
   The "LANGUAGE" screen appears.

3. *To select " DEUTSCH " ...*
   Use the ◄ and ► buttons to select " DEUTSCH ".
   The mode switches as follows when the ◄ and ► buttons are pressed:

   → **ENGLISH** ↔ **DEUTSCH** ↔ **FRANÇAIS** ←
   └→ 日本語 ↔ **SVENSKA** ↔ **ITALIANO** ↔ **ESPAÑOL** ←┘

```
             LANGUAGE
    LANGUAGE
           : ◄ DEUTSCH ►




    ◆► ADJ.   PROCEED OK  EXIT RETURN
```

4. Press the ③-D1(ON) button.
   The display language is switched to Deutsch.

5. *Once the setting is completed ...*
   Press the "OK" button to return to the main menu.
   To delete the main menu, press the "OK" button once more.

### Information

#### ■ Language settings

ENGLISH ............. English
DEUTSCH ........... German
FRANÇAIS .......... French
ESPAÑOL ........... Spanish
ITALIANO ........... Italian
SVENSKA ........... Swedish
日本語 ................. Japanese

47

**Setting the video signal format**
Use these operations to set the video signal format.

Example: Setting the video signal format to "3.58 NTSC"

*Press the ③-D1(ON) button on the remote controller to display the MAIN MENU on the screen, then...*

1. Use the ▲ and ▼ buttons to select "INFORMATION", then press the ③-D1(ON) button.
   The "INFORMATION" screen appears.

2. Use the ▲ and ▼ buttons to select "COLOR SYSTEM", then press the ③-D1(ON) button.

```
              INFORMATION
     FREQUENCY
     LANGUAGE
     COLOR SYSTEM

     ⬍ SEL.    PROCEED OK    EXIT RETURN
```
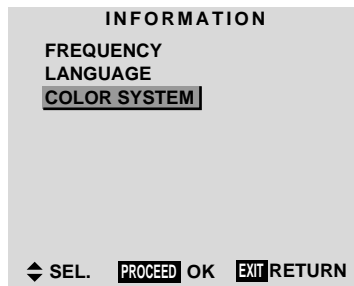
The "COLOR SYSTEM" screen appears.

```
            COLOR SYSTEM
     COLOR SYSTEM
           : ◀  AUTO1  ▶




              ◀▶ ADJ.    EXIT RETURN
```

3. *To select "3.58 NTSC" ...*
   Use the ◀ and ▶ buttons to select "3.58 NTSC".
   The mode switches as follows when the ◀ and ▶ buttons are pressed:

   ┌→ AUTO1 ↔ AUTO2 ↔ 3.58NTSC ↔ 4.43NTSC ←┐
   └→ SECAM ↔ PAL-M ↔ PAL-N ↔ PAL60 ↔ PAL ←┘

```
            COLOR SYSTEM
     COLOR SYSTEM
           : ◀ 3.58NTSC ▶




              ◀▶ ADJ.    EXIT RETURN
```

4. *Once the setting is completed ...*
   Press the "OK" button to return to the main menu.
   To delete the main menu, press the "OK" button once more.

   The color system is set to "3.58 NTSC".

---

### *Information*

#### ■ Video signal formats

Different countries use different formats for video signals. Set to the format used in your current country.

AUTO1/2 ....... The video signals are automatically detected and the format is set accordingly.

   AUTO1: 3.58NTSC, 4.43NTSC, PAL, SECAM, PAL60

   AUTO2: PAL-M, PAL-N, 3.58NTSC

PAL(B.G) ....... This is the standard format used mainly in the United Kingdom and Germany.

SECAM ......... This is the standard format used mainly in France and Russia.

4.43 NTSC,
PAL60 ............ This format is used for videos in countries using PAL and SECAM video signals.

3.58 NTSC .... This is the standard format used mainly in Japan and the United States.

PAL-M ............ This is the standard format used mainly in Brazil.

PAL-N ............ This is the standard format used mainly in Argentina.

---

48

# External Control

## Application

These specifications cover the communications control of the plasma monitor by external equipment.

## Connections

Connections are made as described below.



plasma monitor

External equipment
e.g., Personal computer
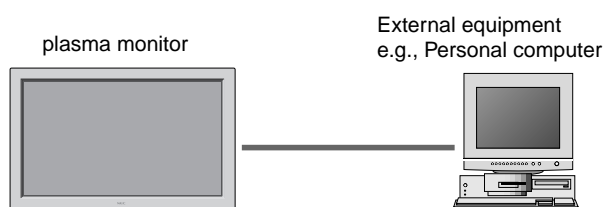
1) Connector on the plasma monitor side: EXTERNAL CONTROL connector.

   **Type of connector: D-Sub 9-pin male**

   | No. | Pin Name |
   | --- | --- |
   | 1 | No Connection |
   | 2 | RXD (Receive data) |
   | 3 | TXD (Transmit data) |
   | 4 | DTR (DTE side ready) |
   | 5 | GND |
   | 6 | DSR (DCE side ready) |
   | 7 | RTS (Ready to send) |
   | 8 | CTS (Clear to send) |
   | 9 | No Connection |
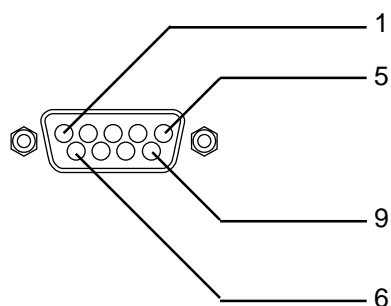


2) Connector on the external equipment side: Serial port (RS-232C) connector
   See the specifications of the equipment that is to be connected for the type of connector and the pin assignment.

3) Wiring
   **Use a crossed (reverse) cable.**
   Wire the cable so that each pair of data lines cross between the two devices. These data line pairs are RXD (Receive data) and TXD (Transmit data), DTR (DTE side ready) and DSR (DCE side ready), and RTS (Ready to send) and CTS (Clear to send).

## Communication Parameters

| | | |
| --- | --- | --- |
| (1) | Communication system | Asynchronous |
| (2) | Interface | RS-232C |
| (3) | Baud rate | 9600 bps |
| (4) | Data length | 8 bits |
| (5) | Parity | Odd |
| (6) | Stop bit | 1 bit |
| (7) | Communication code | Hex |

49

## Communication Format



Command 1
Unit ID 1
Unit ID 2
Command 2
Data length
Data
Check sum
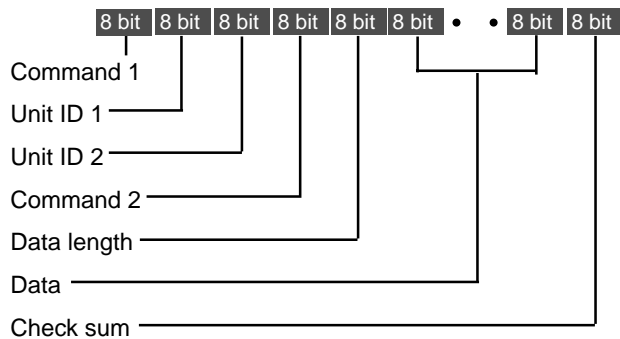
### Command 1

Command 1, along with command 2, is a number used to distinguish each command.

In the case of ACK, when the lower order 4 bits is FH (as in 3FH and 7FH), this indicates that the commands and data of the supported equipment have been received. When the lower order 4 bits is BH (as in 3BH and 7BH), this indicates that unsupported commands and data have been received.

### Unit ID 1 and Unit ID 2

Unit ID 1 and unit ID 2 are numbers used to identify the equipment that is to be connected.

60H is used for the plasma monitor and 80H is used for external control equipment such as a personal computer.

1) Unit ID 1: Indicates the equipment sending the signal

2) Unit ID 2: Indicates the equipment receiving the signal

### Command 2

Command 2, along with command 1, is a number used to distinguish each command.

### Check Sum (CKS), Error Processing, and ACK

1) The check sum described below and RS-232C odd parity are used together for a check of the received data. The check sum is the lower order 8 bits of one frame of sent or received data comprising the sum total of Command 1, Unit ID 1 and 2, Command 2, Data Length, and Data.

### Check Sum Example

| DFH | 80H | 60H | 47H | 01H | 01H | 08H |
|-----|-----|-----|-----|-----|-----|-----|
| Command 1 | Unit ID 1 | Unit ID 2 | Command 2 | Data Length | Data | Check Sum |

Total    208H
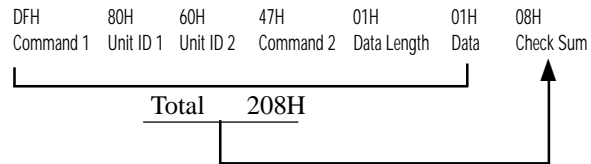
2) Error Processing

• When the communication interval is vacant for more than 4 ms, thereafter a received Command 1 will be recognized. If, at this time, meaningful data cannot be recognized, that data will not be recognized (as valid data).

• An ACK will not be returned unless the receive data error, the check sum error, and the receive data are all taken in.

### Communications Flow



Plasma monitor

External equipment e.g., Personal computer

Running Sense

Running Sense
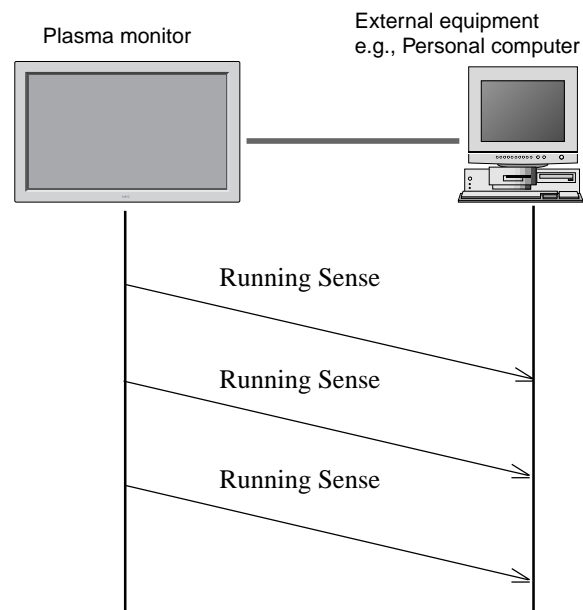
Running Sense

The plasma monitor regularly transmits a Running Sense command at an interval of approximately 1 second.
(Running Sense command: 1FH 60H E0H 88H 00H E7H)
This command is used to recognize optional equipment. The return of an ACK is not required when external equipment such as a personal computer has been connected.
Note that destruction of this data is recommended when it is taken in.

When various commands are to be sent from external equipment such as a personal computer, the plasma monitor is always receive enabled.
Note that when an ACK has not been returned from the plasma monitor in 1.5 seconds, a resending of the command is recommended.

50

## Command Reference List

|     |                    | CMD1 | CMD2 | LEN |
|-----|--------------------|------|------|-----|
| 01. | Power ON           | 9FH  | 4EH  | 00H |
| 02. | Power OFF          | 9FH  | 4FH  | 00H |
| 03. | Input Switch Change | DFH | 47H  | 01H |
| 04. | VOLUME Gain Data   | DFH  | 7FH  | 03H |
| 05. | SCREEN MODE Select | DFH  | 51H  | 01H |
| 06. | AUDIO Mute On      | 9FH  | 3EH  | 00H |
| 07. | AUDIO Mute Off     | 9FH  | 3FH  | 00H |
| 08. | OSM Select         | DFH  | 58H  | 01H |
| 09. | Color Gain Data    | DFH  | 7FH  | 03H |
| 10. | TINT Gain Data     | DFH  | 7FH  | 03H |
| 11. | SHARPNESS Gain Data | DFH | 7FH  | 03H |
| 12. | CONTRAST Gain Data | DFH  | 7FH  | 03H |
| 13. | BRIGHT Gain Data   | DFH  | 7FH  | 03H |
| 14. | Input MODE Request | 1FH  | 41H  | 00H |
| 15. | RESET              | 1FH  | 54H  | 00H |
| 16. | COLOR TEMP SELECT  | DFH  | 00H  | 01H |
| 17. | RED Gain Data      | DFH  | 7FH  | 04H |
| 18. | GREEN Gain Data    | DFH  | 7FH  | 04H |
| 19. | BLUE Gain Data     | DFH  | 7FH  | 04H |
| 20. | VIDEO ADJ Request  | 1FH  | 45H  | 00H |
| 21. | Audio Select Set   | DFH  | 70H  | 02H |
| 22. | Audio Select Request | 1FH | 6FH | 00H |
| 23. | PLE_INVERSE Set    | DFH  | 6AH  | 02H |
| 24. | Failure Mode Request | 1FH | 3FH | 00H |

### 01. Power ON
*Function*

The external control equipment switches on the power of the plasma monitor.

*Transmission Data*

| 9FH | 80H | 60H | 4EH | 00H | CKS |
|-----|-----|-----|-----|-----|-----|

*ACK*

The plasma monitor returns the following ACK when the power is switched on.

| 3FH | 60H | 80H | 4EH | 00H | CKS |
|-----|-----|-----|-----|-----|-----|

### 02. Power OFF
*Function*

The external control equipment switches off the power of the plasma monitor.

*Transmission Data*

| 9FH | 80H | 60H | 4FH | 00H | CKS |
|-----|-----|-----|-----|-----|-----|

*ACK*

The plasma monitor returns the following ACK when the power is switched off.

| 3FH | 60H | 80H | 4FH | 00H | CKS |
|-----|-----|-----|-----|-----|-----|

### 03. Input Switch Change
*Function*

The external control equipment switches the input of the plasma monitor.

*Transmission Data*

| DFH | 80H | 60H | 47H | 01H | DATA00 | CKS |
|-----|-----|-----|-----|-----|--------|-----|

DATA00    : Input Select          01H: Video1
                                  02H: Video2
                                  03H: Video3
                                  05H: HD (HD1 or DTV or DTV1)
                                  06H: HD2 (DTV2)
                                  07H: RGB1/PC1
                                  08H: RGB2/PC2
                                  0CH: RGB3/PC3

*ACK*

The plasma monitor returns the following ACK when the input is switched.

| 3FH | 60H | 80H | 47H | 00H | CKS |
|-----|-----|-----|-----|-----|-----|

### 04. VOLUME Gain Data
*Function*

The external control equipment changes the VOLUME gain data of the plasma monitor.

*Transmission Data*

| DFH | 80H | 60H | 7FH | 03H | DATA00 | DATA01 | DATA02 | CKS |
|-----|-----|-----|-----|-----|--------|--------|--------|-----|

DATA00    USER SOUND Gain Flag        05H
DATA01    VOLUME Gain Flag            01H
DATA02    VOLUME Gain                 00H: Step 0

                                      0AH: Step 10 (Default)

                                      2AH: Step 42

*ACK*

| 7FH | 60H | 80H | 7FH | 02H | DATA00 | DATA01 | CKS |
|-----|-----|-----|-----|-----|--------|--------|-----|

DATA00    USER SOUND Gain Flag        05H
DATA01    VOLUME Gain Flag            01H

### 05. SCREEN MODE Select
*Function*

The external control equipment switches the screen mode of the plasma monitor.

*Transmission Data*

| DFH | 80H | 60H | 51H | 01H | DATA00 | CKS |
|-----|-----|-----|-----|-----|--------|-----|

DATA00    02H : STADIUM
          03H : ZOOM
          04H : NORMAL
          05H : FULL

*ACK*

| 7FH | 60H | 80H | 51H | 01H | DATA00 | CKS |
|-----|-----|-----|-----|-----|--------|-----|

DATA00    02H : STADIUM
          03H : ZOOM
          04H : NORMAL
          05H : FULL

51

## 06. AUDIO Mute On

*Function*

The external control equipment switches on AUDIO Mute of the plasma monitor.

*Transmission Data*

| 9FH | 80H | 60H | 3EH | 00H | CKS |

*ACK*

| 3FH | 60H | 80H | 3EH | 00H | CKS |

## 07. AUDIO Mute Off

*Function*

The external control equipment switches off AUDIO Mute of the plasma monitor.

*Transmission Data*

| 9FH | 80H | 60H | 3FH | 00H | CKS |

*ACK*

| 3FH | 60H | 80H | 3FH | 00H | CKS |

## 08. OSM Select

*Function*

The external control equipment switches on or off the on-screen display (OSM) of the plasma monitor.

*Transmission Data*

| DFH | 80H | 60H | 58H | 01H | DATA00 | CKS |

DATA00　01H : Screen display On
　　　　02H : Screen display Off

*ACK*

| 7FH | 60H | 80H | 58H | 01H | DATA00 | CKS |

DATA00　01H : Screen display On
　　　　02H : Screen display Off

Screen display On/Off is equivalent to the screen display On/Off function of the convenient function settings.

*Operation is as described in the table below.

## 09. COLOR Gain Data

*Function*

The external control equipment changes the COLOR gain data of the plasma monitor.

*Transmission Data*

| DFH | 80H | 60H | 7FH | 03H | DATA00 | DATA01 | DATA02 | CKS |

| DATA00: | USER PICTURE Gain Flag | 01H |
| DATA01: | COLOR Gain Flag | 04H |
| DATA02: | COLOR Gain | EAH: -22 |
| | | $\vert$ |
| | | FFH: -01 |
| | | 00H: 0 |
| | | 01H: +01 |
| | | $\vert$ |
| | | 16H: +22 |

*ACK*

| 7FH | 60H | 80H | 7FH | 02H | DATA00 | DATA01 | CKS |

| DATA00: | USER PICTURE Gain Flag | 01H |
| DATA01: | COLOR Gain Flag | 04H |

## 10. TINT Gain Data

*Function*

The external control equipment changes the TINT gain data of the plasma monitor.

*Transmission Data*

| DFH | 80H | 60H | 7FH | 03H | DATA00 | DATA01 | DATA02 | CKS |

| DATA00: | USER PICTURE Gain Flag | 01H |
| DATA01: | TINT Gain Flag | 05H |
| DATA02: | TINT Gain | EAH: -22 |
| | | $\vert$ |
| | | FFH: -01 |
| | | 00H: 0 |
| | | 01H: +01 |
| | | $\vert$ |
| | | 16H: +22 |

*ACK*

| 7FH | 60H | 80H | 7FH | 02H | DATA00 | DATA01 | CKS |

| DATA00: | USER PICTURE Gain Flag | 01H |
| DATA01: | TINT Gain Flag | 05H |

| Operation | On-Screen Display (OSD) | | | |
| --- | --- | --- | --- | --- |
| | Display of items and adjustments on the menu | | Volume display, input display, and screen size display | |
| | When screen display is ON | When screen display is OFF | When screen display is ON | When screen display is OFF |
| Remote control operation | Yes | Yes | Yes | No |
| Personal computer control operation | No | No | Yes | No |

## 11. SHARPNESS Gain Data
### Function
The external control equipment changes the SHARPNESS gain data of the plasma monitor.
### Transmission Data

| DFH | 80H | 60H | 7FH | 03H | DATA00 | DATA01 | DATA02 | CKS |
|-----|-----|-----|-----|-----|--------|--------|--------|-----|

DATA00:  USER PICTURE Gain Flag          01H
DATA01:  SHARPNESS Gain Flag             06H
DATA02:  SHARPNESS Gain                  F0H: -16
                                         |
                                         FFH: -01
                                         00H: 0
                                         01H: +01
                                         |
                                         10H:+16

### ACK

| 7FH | 60H | 80H | 7FH | 02H | DATA00 | DATA01 | CKS |
|-----|-----|-----|-----|-----|--------|--------|-----|

DATA00:  USER PICTURE Gain Flag          01H
DATA01:  SHARPNESS Gain Flag             06H

## 12. CONTRAST Gain Data
### Function
The external control equipment changes the CONTRAST gain data of the plasma monitor.
### Transmission Data

| DFH | 80H | 60H | 7FH | 03H | DATA00 | DATA01 | DATA02 | CKS |
|-----|-----|-----|-----|-----|--------|--------|--------|-----|

DATA00:  USER PICTURE Gain Flag          01H
DATA01:  CONTRAST Gain Flag              07H
DATA02:  CONTRAST Gain                   00H : 0
                                         |
                                         34H: +52

### ACK

| 7FH | 60H | 80H | 7FH | 02H | DATA00 | DATA01 | CKS |
|-----|-----|-----|-----|-----|--------|--------|-----|

DATA00:  USER PICTURE Gain Flag          01H
DATA01:  CONTRAST Gain Flag              07H

## 13. BRIGHT Gain Data
### Function
The external control equipment changes the BRIGHT gain data of the plasma monitor.
### Transmission Data

| DFH | 80H | 60H | 7FH | 03H | DATA00 | DATA01 | DATA02 | CKS |
|-----|-----|-----|-----|-----|--------|--------|--------|-----|

DATA00:  USER PICTURE Gain Flag          01H
DATA01:  BRIGHT Gain Flag                08H
DATA02:  BRIGHT Gain                     E0H: -32
                                         |
                                         FFH: -01
                                         00H: 0
                                         01H: +01
                                         |
                                         20H: +32

### ACK

| 7FH | 60H | 80H | 7FH | 02H | DATA00 | DATA01 | CKS |
|-----|-----|-----|-----|-----|--------|--------|-----|

DATA00:  USER PICTURE Gain Flag          01H
DATA01:  BRIGHT Gain Flag                08H

## 14. Input MODE Request
### Function
The display returns the current input information by the external control equipment's request.
### Transmission Data

| 1FH | 80H | 60H | 41H | 00H | CKS |
|-----|-----|-----|-----|-----|-----|

### ACK

| 7FH | 60H | 80H | 41H | 01H | DATA00 | CKS |
|-----|-----|-----|-----|-----|--------|-----|

DATA00:  Input Select
         01H: Video1             02H: Video2
         03H: Video3             04H: HD (HD1 or DTV or DTV1)
         05H: RGB1/PC1           06H: RGB2/PC2
         0AH:DVD (DVD1)          0CH:HD2 (DTV2)
         0DH:DVD2                0EH:RGB3/PC3

## 15. RESET
### Function
The external control equipment resets the user adjustment of the plasma monitor.
### Transmission Data

| 1FH | 80H | 60H | 54H | 00H | CKS |
|-----|-----|-----|-----|-----|-----|

### ACK

| 3FH | 60H | 80H | 54H | 00H | CKS |
|-----|-----|-----|-----|-----|-----|

## 16. COLOR TEMP SELECT
### Function
The external control equipment changes the COLOR TEMP of the plasma monitor.
Transmission Data

| DFH | 80H | 60H | 00H | 01H | DATA00 | CKS |
|-----|-----|-----|-----|-----|--------|-----|

DATA00
     00H: 1
     01H: 2
     02H: 3
     03H: PRO

### ACK

| 7FH | 60H | 80H | 00H | 01H | DATA00 | CKS |
|-----|-----|-----|-----|-----|--------|-----|

DATA00:
     00H: 1
     01H: 2
     02H: 3
     03H: PRO

NOTE: Set so that at the selection of 1, 2, or 3 of COLOR TEMP change of the following R/G/B GAIN data cannot be accepted. (This must be operated in the same way as OSD menu.)

53

## 17. RED Gain Data

### *Function*

The external control equipment changes the RED Gain Data of the plasma monitor.

### *Transmission Data*

| DFH | 80H | 60H | 7FH | 04H | DATA00 to DATA03 | CKS |
| --- | --- | --- | --- | --- | --- | --- |

DATA00: USER PICTURE Gain Flag        01H

DATA01: RED Gain Flag        01H

DATA02: RED Gain 1 (Bias)        D8H: -40

       |

       FFH: -1

       00H: 0

       |

       28H: +40

DATA03:RED Gain 2 (Drive)        D8H: -40

       |

       FFH: -1

       00H: 0

       |

       28H: +40

### *ACK*

| 7FH | 60H | 80H | 7FH | 02H | DATA00 | DATA01 | CKS |
| --- | --- | --- | --- | --- | --- | --- | --- |

DATA00: USER PICTURE Gain Flag        01H

DATA01: RED Gain Flag        01H

## 18. GREEN Gain Data

### *Function*

The external control equipment changes the GREEN Gain Data of the plasma monitor.

### *Transmission Data*

| DFH | 80H | 60H | 7FH | 04H | DATA00 to DATA03 | CKS |
| --- | --- | --- | --- | --- | --- | --- |

DATA00: USER PICTURE Gain Flag        01H

DATA01: GREEN Gain Flag        02H

DATA02: GREEN Gain 1 (Bias)        D8H: -40

       |

       FFH: -1

       00H: 0

       |

       28H: +40

DATA03: GREEN Gain2 (Drive)        D8H: -40

       |

       FFH: -1

       00H: 0

       |

       28H: +40

### *ACK*

| 7FH | 60H | 80H | 7FH | 02H | DATA00 | DATA01 | CKS |
| --- | --- | --- | --- | --- | --- | --- | --- |

DATA00: USER PICTURE Gain Flag        01H

DATA01: GREEN Gain Flag        02H

## 19. BLUE Gain Data

### *Function*

The external control equipment changes the BLUE Gain Data of the plasma monitor.

### *Transmission Data*

| DFH | 80H | 60H | 7FH | 04H | DATA00 to DATA03 | CKS |
| --- | --- | --- | --- | --- | --- | --- |

DATA00: USER PICTURE Gain Flag        01H

DATA01: BLUE Gain Flag        03H

DATA02: BLUE Gain1(Bias)        D8H:-40

       |

       FFH:-1

       00H: 0

       |

       28H: +40

DATA03: BLUE Gain2(Drive)        D8H: -40

       |

       FFH:-1

       00H: 0

       |

       28H:+40

### *ACK*

| 7FH | 60H | 80H | 7FH | 02H | DATA00 | DATA01 | CKS |
| --- | --- | --- | --- | --- | --- | --- | --- |

DATA00: USER PICTURE Gain Flag        01H

DATA01: BLUE Gain Flag        03H

54

## 20. VIDEO ADJ Request

### Function

The display returns the video adjustments information by the external control equipment's request.

### Transmission Data

| 1FH | 80H | 60H | 45H | 00H | CKS |
|-----|-----|-----|-----|-----|-----|

### ACK

| 7FH | 60H | 80H | 45H | 0CH | DATA00 to DATA0B | CKS |
|-----|-----|-----|-----|-----|------------------|-----|

| | |
|---|---|
| DATA00: RED Gain(Bias) | D8H: -40<br><br>FFH: -1<br>00H: 0<br><br>28H: +40 |
| DATA01: GREEN Gain(Bias) | D8H: -40<br><br>FFH: -1<br>00H: 0<br><br>28H: +40 |
| DATA02: BLUE Gain(Bias) | D8H: -40<br><br>FFH: -1<br>00H: 0<br><br>28H: +40 |
| DATA03: COLOR Gain | EAH: -22<br><br>FFH: -01<br>00H: 0<br>01H: +01<br><br>16H: +22 |
| DATA04: TINT Gain | EAH: -22<br><br>FFH: -01<br>00H: 0<br>01H: +01<br><br>16H: +22 |
| DATA05: SHARPNESS Gain | F0H: -16<br><br>FFH: -01<br>00H: 0<br>01H: +01<br><br>10H: +16 |
| DATA06: CONTRAST Gain | 00H: 0<br><br>34H: +52 |
| DATA07: BRIGHT Gain | E0H: -32<br><br>FFH: -01<br>00H: 0<br>01H: +01<br><br>20H: +32 |
| DATA08: RED Gain(Drive) | D8H: -40<br><br>FFH: -1<br>00H: 0<br><br>28H: +40 |
| DATA09: GREEN Gain(Drive) | D8H: -40<br><br>FFH: -1<br>00H: 0<br><br>28H: +40 |
| DATA0A: BLUE Gain(Drive) | D8H: -40<br><br>FFH: -1<br>00H: 0<br><br>28H: +40 |
| DATA0B: COLOR TEMP | 00H: 1<br>01H: 2<br>02H: 3<br>03H: PRO |

## 21. Audio Select Set
### Function
The external control equipment sets combinations of audio and video inputs for the plasma monitor.
### Transmission Data

| DFH | 80H | 60H | 70H | 02H | DATA00 | DATA01 | CKS |
|-----|-----|-----|-----|-----|--------|--------|-----|

DATA00: AUDIO INPUT
- 01H: AUDIO 1
- 02H: AUDIO 2
- 03H: AUDIO 3

DATA01: VISUAL INPUT
- 01H: Video 1
- 02H: Video 2
- 03H: Video 3
- 05H: HD (HD1 or DTV or DTV1)
- 06H: HD2 (DTV2)
- 07H: RGB 1/ PC 1
- 08H: RGB 2/ PC 2
- 0CH: RGB 3/ PC 3

### ACK
The plasma monitor returns the following ACK when the input is switched.

| 3FH | 60H | 80H | 70H | 00H | CKS |
|-----|-----|-----|-----|-----|-----|

\* The plasma monitor returns "Not Available" when selecting the video input same as the one set at one of the AUDIO 01 to 3.

**Example:**
The plasma monitor returns "Not Available" when selecting the VIDEO1 for AUDIO2 or VIDEO3 after VIDEO1 has been set to AUDIO1.

## 22. Audio Select Request
### Function
The external control equipment inquires the current combinations of audio and video inputs for the plasma monitor.
### Transmission Data

| 1FH | 80H | 60H | 6FH | 00H | CKS |
|-----|-----|-----|-----|-----|-----|

### ACK
The plasma monitor returns the following ACK:

| 7FH | 60H | 80H | 6FH | 03H | DATA00 | DATA01 | DATA02 | CKS |
|-----|-----|-----|-----|-----|--------|--------|--------|-----|

DATA00: AUDIO 1
DATA01: AUDIO 2
DATA02: AUDIO 3

VISUAL INPUT DATA
- 01H: Video 1
- 02H: Video 2
- 03H: Video 3
- 05H: HD (HD1 or DTV or DTV 1)
- 06H: HD2 (DTV2)
- 07H: RGB 1 /PC 1
- 08H: RGB 2 /PC 2
- 0CH: RGB 3 /PC 3

## 23. PLE_INVERSE Set
### Function
The external control equipment sets the PLE and INVERSE (inverse of image brightness) of the plasma monitor.
### Transmission Data

| DFH | 80H | 60H | 6AH | 02H | DATA00 | DATA01 | CKS |
|-----|-----|-----|-----|-----|--------|--------|-----|

DATA00 : PLE
- 01H: AUTO
- 02H: LOCK

DATA01 : INVERSE
- 01H: ON
- 02H: OFF

### ACK
The plasma monitor returns the following ACK when setting the PLE and INVERSE (inverse of image brightness):

| 3FH | 60H | 80H | 6AH | 00H | CKS |
|-----|-----|-----|-----|-----|-----|

## 24. Failure Mode Request
### Function
The external control equipment inquires the detection of failures of the plasma monitor.
### Transmission Data

| 1FH | 80H | 60H | 3FH | 00H | CKS |
|-----|-----|-----|-----|-----|-----|

### ACK
The plasma monitor returns the following ACK:

| 7FH | 60H | 80H | 3FH | 02H | DATA00 | DATA01 | CKS |
|-----|-----|-----|-----|-----|--------|--------|-----|

DATA00:FILURE MODE 1
- Bit 0 : PDP MODULE
  - 0: Abnormal
  - 1: Normal
- Bit 1 : fixed (backup)
- Bit 2 : TEMPERATURE
  - 0: Abnormal
  - 1: Normal
- Bit 3 : FAN
  - 0: Abnormal
  - 1: Normal
- Bit 4 : fixed (backup)
- Bit 5 : fixed (backup)
- Bit 6 : fixed (backup)
- Bit 7 : fixed (backup)

DATA00:FILURE MODE 2
- Bit 0–7 : fixed (backup)

56

# Table for Signals Supported

## Supported resolution

- When screen mode is NORMAL, each signal is converted to a 640 dots × 480 lines signal. (Except for *3)
- When screen mode is FULL, each signal is converted to a 853 dots × 480 lines signal. (Except for *2)

**Computer input signals supported on this system**

| Model | Dots × lines | Vertical frequency (Hz) | Horizontal frequency (kHz) | Screen mode NORMAL | Screen mode FULL |
|---|---|---|---|---|---|
| *IBM PC/AT compatible computers | 640×400 | 70.1 | 31.5 | YES*1 | YES*1 |
| | 640×480 | 59.9 | 31.5 | YES | YES |
| | | 72.8 | 37.9 | YES | YES |
| | | 75.0 | 37.5 | YES | YES |
| | | 85.0 | 43.3 | YES | YES |
| | | 100.0 | 51.1 | YES | YES |
| | | 120.0 | 61.3 | YES | YES |
| | 848×480*2 | 60.0 | 31.0 | – – | YES |
| | 800×600 | 56.3 | 35.2 | YES | YES |
| | | 60.3 | 37.9 | YES | YES |
| | | 72.2 | 48.1 | YES | YES |
| | | 75.0 | 46.9 | YES | YES |
| | | 85.0 | 53.7 | YES | YES |
| | | 100.0 | 63.0 | YES | YES |
| | | 120.0 | 75.7 | YES | YES |
| | 1024×768 | 60.0 | 48.4 | YES | YES |
| | | 70.0 | 56.5 | YES | YES |
| | | 75.0 | 60.0 | YES | YES |
| | | 85.0 | 68.7 | YES | YES |
| | | 100.0 | 80.5 | YES | YES |
| | 1280×1024 | 60.0 | 64.0 | YES*3 | YES |
| *Apple Macintosh | 640×480 | 66.6 | 35.0 | YES | YES |
| | 832×624 | 74.6 | 49.7 | YES | YES |
| | 1024×768 | 74.9 | 60.2 | YES | YES |
| | 1152×870 | 75.1 | 68.7 | YES | YES |

*1 Display only 400 lines with the screen center of the vertical orientation located at the center.
*2 Only when using a graphic accelerator board that is capable of displaying 848×480.
*3 Aspect ratio is 5:4. This signal is converted to a 600 dots × 480 lines signal.

*NOTE:*

- *With digital inputs some signals are not accepted.*
- *The sync may be disturbed when non standard signals other than the aforementioned are input.*
- *When connecting a composite sync signal, use the HD terminal.*

* "IBM PC/AT" and "VGA" are a registered trademark of International Business Machines, Inc. of the United States.
* "Apple Macintosh" is a registered trademark of Apple Computer, Inc. of the United States.

# Troubleshooting

If the picture quality is poor or there is some other problem, check the adjustments, operations, etc., before requesting service.

| Symptom | Checks | Remedy |
|---|---|---|
| Picture is disturbed.<br>Sound is noisy.<br>Remote control unit operates errone-ously. | • Is a connected component set directly in front or at the side of the display? | • Leave some space between the display and the connected components. |
| The remote controller does not work. | • Are the remote controller's batteries worn out? | • Replace both batteries with new ones. |
| Monitor's power does not turn on when the remote controller's power button is pressed. | • Is the monitor's power cord plugged into a power outlet? | • Plug the monitor's power cord into a power outlet. |
| | • Are all the monitor's indicators off? | • Press the power button on the monitor to turn on the power. |
| | • Are the remote controller's batteries worn out? | • Replace both batteries with new ones. |
| Monitor does not operate when the re-mote controller's buttons are pressed. | • Is the remote controller pointed at the monitor, or is there an obstacle between the remote controller and the monitor? | • Point the remote controller at the monitor's remote control sensor when pressing but-tons, or remove the obstacle. |
| | • Is direct sunlight or strong artificial light shining on the monitor's remote control sensor? | • Eliminate the light by closing curtains, point-ing the light in a different direction, etc. |
| | • Are the remote controller's batteries worn out? | • Replace both batteries with new ones. |
| | • The remote cable is plugged into the REMOTE IN terminal (Wired) | • Unplung the remote cable from the monitor. |
| | • The front panel buttons of the main unit do not function. | • The front panel buttons do not function during Control Lock. |
| No sound or picture is produced. | • Is the monitor's power cord plugged into a power outlet? | • Plug the monitor's power cord into a power outlet. |
| Picture appears but no sound is pro-duced. | • Is the volume set at the minimum? | • Increase the volume. |
| | • Is the mute mode set? | • Press the remote controller's mute button. |
| | • Are the speakers properly connected? | • Connect the speakers properly. |
| | • Is AUDIO INPUT set correctly? | • Set AUDIO INPUT on the OPTION menu correctly. |
| Poor picture with VIDEO signal input. | • Improper control setting.<br>Local interference.<br>Cable interconnections.<br>Input impedance is not correct level. | • Adjust picture control as needed.<br>Try another location for the monitor.<br>Be sure all connections are secure. |
| Poor picture with RGB signal input. | • Improper control setting.<br>Incorrect 15 PIN connector pin connections. | • Adjust picture controls as needed.<br>Check pin assignments and connections. |
| Tint is poor or colors are weak. | • Are the tint and colors properly adjusted? | • Adjust the tint and color (under "PICTURE"). |
| Nothing appears on screen. | • Is the computer's power turned on? | • Turn on the computer's power. |
| | • Is a source connected? | • Connect source to the monitor. |
| | • Is the power manager function in the standby or off mode? | • Operate the computer (move the mouse, etc.). |
| Part of picture is cut off or picture is not centered. | • Is the position adjustment appropriate? | • Adjust the "SCREEN" properly. |
| Image is too large or too small. | • Is the screen size adjustment appropri-ate? | • Press the "WIDE" button on the remote controller and adjust properly. |
| Picture is unstable. | • Is the computer's resolution setting appropriate? | • Set to the proper resolution. |
| POWER/STANDBY indicator is lighted in orange or red. | • Horizontal and / or vertical sync signal is not present when the Intelligent Power Manager control is on. | • Check the input signal. |
| POWER/STANDBY indicator is blinking in red. | • The temperature inside the main unit has become too high and has activated the protector. | • Promptly switch off the power of the main unit and wait until the internal temperature drops. See*1. |
| POWER/STANDBY indicator is blinking in green. | ———————— | • Prompty switch off the power of the main unit. See *2. |

*1 Overheat protector
   If the monitor becomes too hot, the overheat protector will be activated and the monitor will be turned off. If this happens., turn off the power to the monitor and unplug the power cord. If the room where the monitor is installed is particularly hot, move monitor to a cooler location and wait for the monitor to cool for 60 minutes. If the problem persists, contact your Marantz dealer for service.

*2 In the following case, power off the monitor immediately and contact your dealer.
   The monitor turns off 5 seconds after powering on and then the POWER/STANDBY indicator blinks. It indicators that the power supply circuit or, one more fans have been damaged.

58

# Specifications

| | |
|---|---|
| **Product Name** | SLIM SERLES PLASMA MONITOR |
| **Product Code** | PD4292D |
| **Screen Size** | 36.3"(H)×20.4"(V) inches |
| | 921(H)×518.4(V) mm |
| | diagonal 42" |
| **Aspect Ratio** | 16 : 9 |
| **Resolution** | 853(H)×480(V) pixels |
| **Pixel Pitch** | 0.04"(H)×0.04"(V) inches |
| | 1.08(H)×1.08(V) mm |
| **Color Reproduction** | 256 levels, 16,770,000 colors |
| **Signals** | |
| Synchronization Range | Horizontal : 15.5 to 80.5 kHz |
| | (automatic : step scan) |
| | Vertical : 50.0 to 120 Hz |
| | (automatic : step scan) |
| Input Signals | RGB, NTSC (3.58/4.43), PAL (B,G,M,N), |
| | PAL60, SECAM, HD*[1], DVD*[1], DTV*[1] |
| **Input Terminals** | |
| RGB | |
| Visual 1 (Analog) | mini D-sub 15-pin×1 |
| Visual 2 (Analog) | BNC (R, G, B, H/CS, V)×1 |
| Visual 3 (Digital) | DVI-I 29-pin×1*[2] |
| | (Not compatible with analog input) |
| Video | |
| Visual 1 | RCA-pin×1 |
| Visual 2 | BNC×1 |
| Visual 3 | S-Video: DIN 4-pin×1 |
| DVD/HD/DTV | |
| Visual | RCA-pin (Y, $P_B[C_B]$, $P_R[C_R]$) |
| **Audio** | Stereo RCA×3 |
| **External Control** | D-sub 9-pin×1(RS-232C) |
| **Sound output** | 7W+7W at 6 ohm |
| **Power Supply** | AC100–240V 50/60Hz |
| **Current Rating** | 5.0A (maximum)Marantz |
| **Power Consumption** | 395W (typical) |
| **Dimensions** | 41.3 (W)×25.5 (H)×3.5 (D) inch |
| | 1048 (W)×648 (H)×89 (D) mm |
| **Weight** | 70.6 lbs / 32 kg |
| **Environmental Considerations** | |
| Operating Temperature | 0°C to 40°C / 32°F to 104°F |
| Humidity | 20 to 80% |
| Altitude | 0 to 1900m / 0 to 6230ft |
| Storage Temperature | -10°C to 50°C / 14°F to 122°F |
| Humidity | 10 to 90% |
| Altitude | 0 to 3000m / 0 to 9840ft |
| **Front Panel User Controls** | Power on/off, Input source select, |
| | Volume up/down/ OSM control |
| **Remote Control Functions** | Power on/off, Input source selct, OSM control, |
| | Volume up/down, Cursor (UP, DOWN, LEFT, |
| | RIGHT), Pointer, Zoom up/down, Off timer, |
| | Wireless/ Wired remote control |
| **OSM Functions** | Picture (Contrast / Brightness / Sharpness / |
| | Color / Tint / Picture mode/ Color temperature |
| | / Noise reductions), Sound (Bass / Treble / |
| | Balance),Screen (V-Position / H-Position / V- |
| | Height/ H-Width/ Auto Picture/ Fine picture/ |
| | Picture adjustment), Function (OSM/ OSM |
| | adjustment/ Power management/ Gray level/ |
| | PLE+INVERSE/ Cinema mode/ Reset)/ Option |
| | (Audio input/ BNC select/ RGB select/ HD |
| | select/ RGB3 Adjustment), Information (Fre- |
| | quency / Language / Color system) |



Units are in inch (mm)
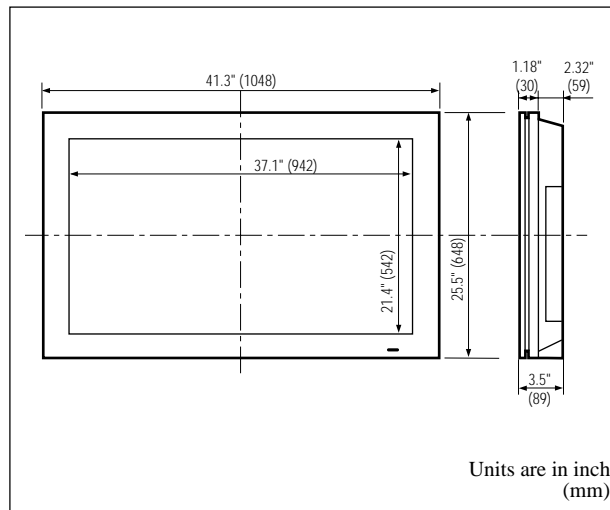
The features and specifications may be subject to change without notice.

---

**\*[1] HD/DVD/DTV input signals supported on this system**

| | |
|---|---|
| 480P (60 Hz) | 480I (60 Hz) |
| 525P (60 Hz) | 525I (60 Hz) |
| 625P (50 Hz) | 625I (50 Hz) |
| 720P (60 Hz) | 1035I (60 Hz) |
| | 1080I (60 Hz) |

**\*[2] It doesn't cope with copy protection.**

---

| | |
|---|---|
| **Other Features** | Power management, plug and play (DDC1, DDC2b, RGB3: DDC2b only), Control lock |
| **Accessories** | Remote controller RC2000MK2 with four AA batteries, Power cord, User's Manual, Safty metal fitting (2 pieces), Screw for safty metal fitting (2 pieces), Ferrite core. (small×2, large×1) |
| **Regulations** | UL Approved (UL 1950, CSA 950) |
| | DOC Canada requirements |
| | Meets FCC Class A requirements |

# marantz®
## Limited Warranty for the Marantz SLIM SERIES PLASMA MONITOR

### Who is covered?
You must have proof of purchase to receive warranty service.

### What is covered?
1) Warranty coverage begins the day you purchase your Plasma Television, and continues for a period of one year.
2) Marantz America will provide in-home warranty repair.
3) Marantz America will incur all labor charges for repairs during the warranty period.
4) Marantz America will incur all freight charges for warranty repairs, both to Marantz and the return to the customer.
   We suggest keeping all packing materials for any shipping that might be required.
5) All parts, including repaired and replaced parts are covered only for the original warranty period.

When the warranty on the product expires, the warranty on all replaced and repaired parts also expires.

### What is excluded?
Your warranty does not cover:
1) Labor charges for installation or setup of the product, cleaning, adjustment of customer controls on the product, and installation or repair of antenna systems outside of the product.

2) Improper installation, removal or maintenance, or failure to follow instructions supplied with the product.

3) Reception problems caused by signal conditions from cable or antenna systems outside the product.

4) Repair, attempted repair or modification performed by anyone other than an authorized Marantz America service center.

5) Any product, on which the serial number has been defaced, modified or removed.

6) Warranty is void if purchase was made from anyone other than an authorized Marantz dealer.

7) Warranty is void if purchased from outside The United States of America.

8) Warranty only valid in the United States of America.

9) Damage due to lightning or power line surges, spikes and brown outs, damages that occur during shipping or transit, or damage which is attributed to acts of God.

10) Incidental or consequential damages resulting from the product. (Some states do not allow the exclusion of incidental or consequential damages, so the above exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.)

11) Commercial or institutional use.
12) Any other cause which does not relate to product defect.
13) Burns or residual images upon the phosphor of the tubes.

*Note: Pixel defect*
*Plasma is one of the most advanced technologies for consumer products. The panel is made by high precision technology, however some pixel defects may be found on the Plasma display panel. We are trying our best to control the quality in order to reduce the number of defective pixels. It is almost impossible to have zero pixel defects, even using the most advanced technology. This is not a problem only for Marantz, but all Plasma manufacturers. Therefore we have to note that the warranty does not cover the Plasma display panel for pixel defects. We appreciate your understanding.*

### Before requesting service:
Please check your owner's manual before requesting service. Adjustments of the controls and hook up guidelines discussed there may save you a service call.

### To get warranty service:
Repair must be performed by an authorized service center. If you do not know of a Marantz authorized Plasma Television service center, contact your dealer. If your dealer is an authorized service center, they will arrange for repair. If your dealer is not a Marantz authorized Plasma Television service center, they will direct you to an authorized service center. You can also call 1-800-270-4533 for an authorized Marantz service center in your area.
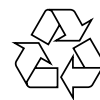
### Optimum performance:
For optimum performance and picture quality, the Plasma monitor is only guaranteed up to 6,230 feet above see level.

## Marantz America, Inc.
440 Medinah Road
Roselle, IL 60172-2330
Tel. 630-307-3100  Fax. 630-307-2687

PD4292D-2        60        00.10.4, 3:11 PM

**marantz** ® is a registered trademark.